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Personnel Record Information System for Management

F. E. RANDALL, Civil Service Department

Introduction

Information is the life blood of any large organization, and this is particularly true of the Civil Service where statistical techniques and readily available information on personnel are playing an increasingly important role in providing an information service for efficient manpower planning and staff management. The developing techniques need to be matched by sophisticated methods of obtaining and manipulating the raw data on which they operate and to meet this requirement the Personnel Record Information System for Management (PRISM) has been introduced to supersede the Civil Service Central Staff Record (CSCSR) which hitherto supplied much of the material. What follows is an account of the history leading up to the development of PRISM and a description of some of its novel features.

The CSCSR originated as a punched card system which recorded basic facts concerning each non-industrial civil servant. It was later upgraded to a magnetic tape based computer system operated at the Central Computer Bureau, Norwich. Since the war it has been the chief source of data on which Civil Service manpower planning has been based. However, it was recognized that the various Civil Service computer payroll systems, which had been developed between 1957 and 1967, already contained much of the material which Departments had to send separately to the CSCSR. In 1968 a feasibility study was undertaken to see whether a system could be developed to create a personnel data base using payroll data as a nucleus for it. As a result of that study, it was decided to:

(*a*) Set payroll standards as far as possible throughout the Civil Service.
(*b*) Eliminate non-computer payrolling, and concentrate payroll work on to a small number of computers.
(*c*) Stretch the payroll records to include personnel information, and to set standard definitions for each item to be recorded.
(*d*) Collect the essential information from these payroll computers and store it on a central data base.
(*e*) Provide an easy to use retrieval system to derive information from the central data base.

The time scale chosen for implementation was five years, mainly so as to minimize re-equipment costs. PRISM duly came into operation, on target, in January 1975 with 10 payroll centres serving the whole non-industrial Civil Service; some of them providing a bureau service for smaller Departments. This then is the PRISM network as illustrated in *figure 1*.

As a result of one of the recommendations of the Fulton Committee, it was decided in 1969 that certain basic information on both senior and certain centrally managed staff groups within the Civil Service should be computerized without delay. By setting up the system in 1970 without waiting for the introduction of PRISM, it was possible to gain experience in the operation of a personnel record system using a terminal and it made a valuable contribution to the development of PRISM. As only a minimum of systems design work could be undertaken, an existing interrogation language (SPECOL) was adopted, using a teletypewriter located in Whitehall linked to an ICL System 4 computer at Paymaster General's Office, Crawley, on which the records were held.[1] The system was implemented in the space of one year and was called the Central Management Staff Record (CMSR).[2]

CSCSR was oriented towards the supply of statistical data, whilst CMSR was mainly used to provide information concerning individuals or groups of people. Both functions had to be combined in PRISM. The existing systems, but more particularly CSCSR, suffered from inaccuracies mainly because of their up-dating which relied on clerical input from a very large number of different Departments.

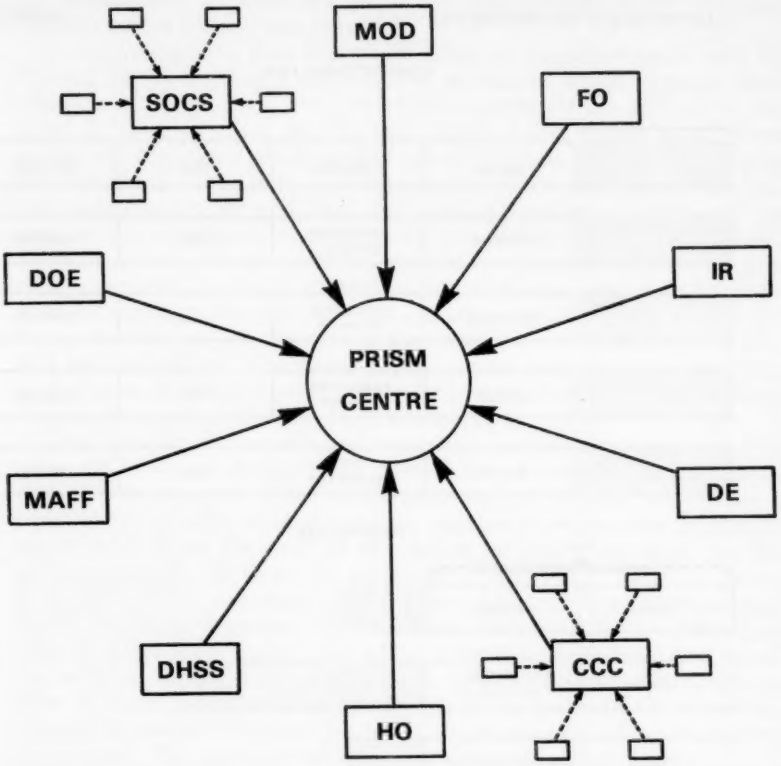
The PRISM system should be much more accurate because the data are extracted automatically from the network's integrated pay and personnel records where a high level of accuracy is mandatory. One of the PRISM design aims was to make the data base as readily accessible to the user as possible. A request for information from CSCSR took normally from one week to a month depending on whether the same type of information had been supplied in the past (in which case special programming was not required) and the nature of the processing involved. In some cases a 24-hour turn round was possible, but this was in exceptional circumstances. CMSR proved that a regular 24-hour service was possible, with replies within minutes where a small amount of printing was involved. PRISM is a system to take us into the 1980s and has, therefore, been designed to exploit the most useful technical advances; in particular a network of Visual Display Units (VDUs) will enable users to extract information directly without having to go through a 'middleman' to process, or program, their requirements.

Computer file structures

One of the problems encountered with both CSCSR and CMSR was that it was necessary to scan the magnetic tape containing the personal records from beginning to end in order to answer some enquiries. Furthermore, in the case of CSCSR, additional processing was required

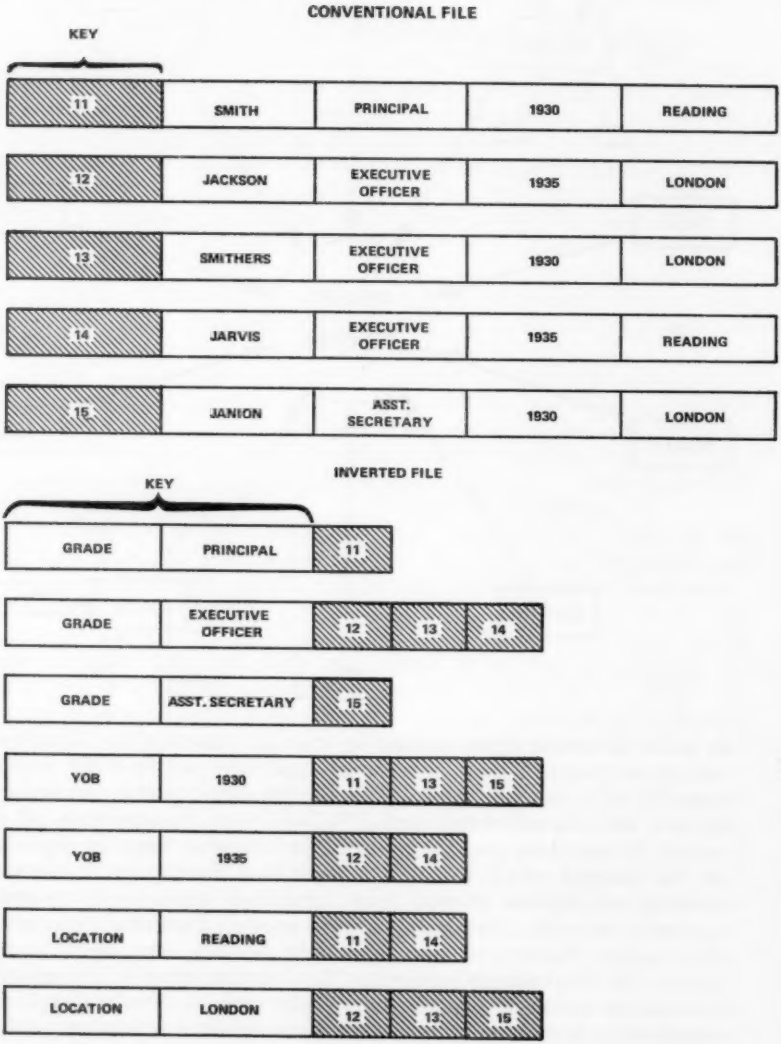
THE PRISM DATA NETWORK

FIGURE 1



in order to create tapes containing records reflecting the situation at any given point in time. The latest tape only reflected the reported situation with many changes still in the 'pipeline', and it was necessary to wait for a considerable period before these changes were all processed. It was then possible to create a 'snapshot' tape incorporating all the changes which took place prior to a fixed point in time and ignoring subsequent events. Such 'snapshot' tapes were created at quarterly intervals. Similar tapes were produced containing records of the changes themselves over quarterly periods, and were used to provide the increasingly important 'flow' information on, for example, movements between grades. Obviously such a system involved a considerable amount of tape handling, and whilst it was adequate in an environment where the enquiries could be batched, and the tape handling optimized, it was unsuitable for PRISM where the system

ILLUSTRATION OF AN INVERTED FILE *FIGURE 2*



would need access to tapes in an unpredictable order. A further disadvantage was that a 'current state' file was not suitable for supplying the information required for personnel management where an individual's career history was required.

It was recognized that the whole range of enquiries could best be catered for by holding a single file of records to which changes were added, and to program the system to reconstruct the picture to the point in time specified by the user. Such a file is said to be 'date sensitive'. The extra space used is not as great as one would imagine because much of the data remains constant from one year to the next and calculations showed that the cost of computer equipment to support this constantly expanding file was within the budget allowed. Even so, it was not going to be possible to give the desired response times (the time to answer questions) by using serial search techniques. Various methods of organizing the file were examined and eventually it was decided to hold the data in two forms; a conventional serial file, and an inverted file. The latter was to be used to derive statistical data and also to provide an index to the former when personal information relating to a group of individuals was required.

The inverted file records are organized as lists of persons with the same attribute; for example, one record would contain a list of executive officers, another a list of higher executive officers. There are a series of lists relating to all the grades, another series relating to Departments and so on for each of the major attributes recorded on the personal record. In order to answer a question such as 'How many executive officers are there in the Home Office?', it is a simple and rapid process to 'intersect' the executive officer and Home Office lists (that is select those individuals which appear on both lists) and count the selected identifiers to provide the answer. The resultant list can then be used as an index to access quickly and directly the relevant records on the conventional file to obtain details of the history of those individuals. The principle of the inverted file is shown in *figure 2*.

The inverted file technique has been used elsewhere, but the PRISM application of it is probably unique in that in addition to the 'stock' lists, there are associated monthly 'gain' and 'loss' lists; e.g. the January 1975 'gain' list for executive officers contains the identifiers of all personnel who entered the EO grade in January 1975. Thus to establish who were EOs at a given date, it is only necessary to take the EO 'stock' list, subtract from it individuals appearing in the intervening monthly 'gain' lists and finally add those in the relevant 'loss' lists to obtain the answer. Furthermore, it is very easy to derive the 'flow' data, which is so important to statisticians, by using the 'gain' and 'loss' lists. This is how the date-sensitivity previously referred to is provided.[3]

Data standards and definitions

Since personnel information is required by users in a variety of forms and groupings which change with time but which are derived from the

same basic data, the philosophy when defining, classifying and coding items has been to record them in terms of the smallest practicable 'bricks' and to use the computer system to derive information from this data according to the needs of each user. Thus it is possible to specify 'Economic Planning Region' or 'Administrative Area', and this information is derived from the PRISM 'location' element which is based mainly on local authority districts. Similarly one can derive 'age' or 'length of service in grade' from the elements 'date of birth' and 'date of entry to grade' respectively. The derived information may be formed during the up-dating of the PRISM data base as explained later, or alternatively during the retrieval processing, whichever is more convenient to the system, but the user does not need to be aware of this.

An associated aspect of PRISM coding philosophy is the avoidance of significance codes since significance can alter with time, and programs dependent on code significance can be very difficult to maintain.

Retrieval language

If PRISM was to fulfil the design aim of bringing the user closer to the source of his data, an easy to use retrieval language had to be devised to enable him to communicate his data requirements to the system without ambiguity. There are a number of such languages (SPECOL has already been mentioned), but none of them were suitable enough to match the new date-sensitive features of the PRISM data base. The PRISM Information Retrieval Language (PIRL) was therefore evolved.[4] This permits a user to specify the date at which he needs the system to reconstruct the data base when answering his questions. A few examples will help to illustrate the facilities:

(*a*) SELECT GRD (2043) AND DEPT (180) AT 1/1/75

would result in a count of HEOs who were in that grade and also in Customs and Excise on 1st January 1975.

(*b*) SELECT GAIN GRD (2043) AND DEPT (133) IN 1975

would count those who become HEOs during the year and were in DHSS on the date of entry to that grade.

There are other facilities whereby it is possible to calculate the length of time between two events and use this as a selection criteria as, for instance:

(*c*) SELECT GRD (2044) AND DGRD NOW MINUS DSERVICE NOW GT 10 YRS

This would count EOs with more than 10 years' service when they entered the grade.

Privacy

When requests for data were sent to CSCSR or CMSR they could be

scrutinized to ensure that information from the personnel files was not passed to anyone who was not entitled to it. With PRISM, information is obtained by the user himself so a clerical check cannot be made, and adequate precautions have, therefore, been taken to ensure that privacy is not violated. First, each VDU linked to the system has a physical lock, and there is rigid control over the issue of keys. Then each authorized user is given a password which he must quote when he commences a session. These passwords can be changed at any time by the user and are known only to the individual concerned. If any attempt is made to discover a valid password by trial and error, the system will 'lock out' the terminal after three attempts and issue a report at the computer centre so that the matter can be investigated. Finally, each user's needs are examined before he is permitted access to the system and the appropriate restrictions are entered in a special security file which the system uses before each request is processed. These 'privacy locks' restrict the user's access to a particular section of the data base, or to a certain type of output, or a combination of the two. For instance, a departmental user might be permitted access to the records of his own Department but no others; a statistician may be permitted to obtain statistical information, but not allowed to print details from individual records. The privacy locks are expressed in terms of the data fields or elements on the personal record and this ensures a flexibility which should cater for any additional elements which may be added to the data base in the future.[5]

Data base concepts

When designing the PRISM system the latest data base management techniques were investigated and, wherever possible, the standards suggested by the CODASYL Committee were applied. These aim to eliminate or drastically reduce the amount of re-programming required to change or add to the data base in the event of new requirements at a future date. The full range of facilities which are available in some commercial data base administration systems were found to impose a very heavy processing overhead which was prohibitive for the PRISM application. Nevertheless, there is a PRISM data dictionary which describes the format of the data on the files and directs much of the up-dating and retrieval activity. The addition of new elements in the future can, therefore, be achieved by amending the data dictionary. The modules of the programs which use the data dictionary (the data base handling routines) are self-contained so that if any re-programming is necessary it should be restricted to these areas.

Retrieval

The home of PRISM is the Chessington Computer Centre of the Civil Service Department where there is a twin ICL 1904S installation. One machine performs the processing for the payroll and personnel record bureau situated at Chessington (one of the 10 in the PRISM network),

and the other is used to maintain the central PRISM data base and has the network of VDUs attached to it through which the retrieval activity takes place: it also acts as back-up for the pay computer. On the PRISM machine, the retrieval activity is performed by a number of programs operating in a GEORGE III environment. Three of the programs embody a modified version of the ICL Driver software which permits parallel processing of a number of transactions, thus giving each user the illusion that he has a separate machine to himself. The first controls the VDU network, and handles all communications with the user. The preliminary processing of each question is performed in this program which contains the PIRL compiler used to validate questions and convert them to coded format suitable for the later processing. When a question has been accepted, it is passed to one of the other two programs which perform the retrieval activity from the inverted and conventional files respectively. Because the time taken to process a question varies from a few seconds upwards according to the nature of the question, the user is allowed to terminate the session and examine the results later. Each question generates a results file which can be displayed or printed at will, and the user does not have to wait for one question to be processed before asking another. The two subsidiary programs are capable of processing a number of questions in parallel, so that short questions are usually unimpeded by long ones. There are many other features to the retrieval activity including a batch system for the efficient processing of long questions and a version of the National Computer Centre's (NCC) TABN package for producing complex statistical tables.

Up-dating

The data are received from the 10 network computers on magnetic tapes. The system is capable of handling tapes generated on IBM and System 4 machines because not all centres use ICL 1900 series computers. The data are subjected to a rigorous series of validity and consistency checks, and elaborate precautions are taken to ensure that the inverted file is kept in line with the conventional one. A certain amount of transformation is performed. For instance, Departments are only required to transmit details of grades, but since there are two or three thousand Civil Service grades, the user finds it more convenient to group them. The up-date processing includes the conversion of each grade to its appropriate group and this is recorded as a generated element. The integrity of the data base is of prime importance, and to this end, regular check prints are issued from the payroll centres to each individual for checking and any necessary correction.

Project control

The development of the central PRISM system has been a complex operation involving not only CSD staff, but those of three different software houses. In general CSD personnel specified the system and, in

some cases, the programs and the software houses wrote most of the programs. One contract embraced the interchange and up-date group of programs; another the adaptation of the ICL Driver software and advice on the compiler techniques required; whilst the third was for implementing the major retrieval programs. NCC were also commissioned to provide a version of their TABN system which would be compatible with other PRISM programs. All this required elaborate co-ordination and close control to ensure that deadlines were met. A modified form of PERT network was used for this purpose.

Each of the main groups in the PRISM team were required to contribute details of their tasks with estimated dates; the immediate tasks would be stated in some detail, with the later ones in broad outline. As time went by, some of the estimates were found to be wrong, and if they were on the critical path, a new network was drawn by which time it was possible to expand the areas which were originally shown on a broad basis. In this way, the effort required to maintain the critical path network was reduced to the minimum, whilst creating a most effective method of control.

This then is the story of PRISM. At the time of going to press the closing stages of the operation to set up the central PRISM data base are taking place, and it is possible to see the reality of what has for so long been a dream. Already the first requests for information have been processed for management, and there now follows a period of tuning the system to provide the most efficient service. All credit is due to the network Departments who struggled gamely to meet the tight deadlines set them at a time when they were beset with unprecedented payroll problems and staffing difficulties.

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MbO in the Department of Education and Science

D. M. BASEY, Department of Education and Science

Don Basey was formerly Head of the Management Services Unit in Department of Education and Science (DES). Although the article that follows emanates from the MS Unit it has been written in close consultation with colleagues in Pensions Branch to whom the author is indebted for many of the opinions expressed. —*Editor.*

Introduction

Serious interest in MbO in DES began in March 1969 following an approach from the Civil Service Department (CSD), although prior to that date the staff of the Management Services Unit had become aware of this style of management through reading management literature. The Fulton Report had recommended its adoption in the Service and in its central role CSD was keen to see MbO tested not only in non-administrative areas (i.e. areas where there was a volume of casework of a largely executive nature) but also in 'policy' areas. As a small Department with work falling into both categories DES seemed to CSD to be a suitable location for a practical experiment. But a policy area did not seem the best place to start and consideration was therefore concentrated on a non-administrative area which had been suggested—Teachers' Pensions Branch.

Prima facie Pensions Branch did indeed seem a possible venue for an MbO experiment, being a separately housed and, apart from its dependence on the Department's computer, largely self-contained branch of some 200 staff and the largest block of 'executive' type work in the Department. The work covers all aspects of the statutory superannuation scheme for teachers in England and Wales, including investigation of service and eligibility for pension, interchange between teaching and other kinds of pensionable employment, buying-in of added years, collection and repayment of superannuation contributions, and the award of age and infirmity pensions and death gratuities. At the time the work included also the administration of a separately financed family benefits scheme (since integrated into the main scheme). The branch is headed by an Assistant Secretary supported by two Principals and five Senior Executive Officers, each SEO heading a functional division covering one or more areas of work. The divisions are organized in traditional pyramid style and much of the work is quantifiable. Both these factors were thought to be helpful in the context of MbO.

However, in 1969 the branch was in the course of a phased dispersal

to Darlington and an experiment could not practicably have started there before 1971. But the Department agreed to consider such an experiment once the dust of dispersal had settled. As a first step towards the introduction of MbO into the Department as a whole the film *Management by Objectives* was shown to some 260 of its middle and senior managers. In addition the Under-Secretary with responsibility for Pensions Branch attended a seminar on accountable management and MbO.

It is only fair at this stage to record the viewpoint of Pensions Branch, which did not really know what to expect from MbO and saw itself very much as the obedient guinea-pig. It was not the classic case of the ailing business being restored to prosperity, with the managing director saying that he owed it all to MbO. On the contrary, Pensions Branch had a long tradition of a disciplined approach to its work and of the efficient despatch of a large volume of public business. It was admittedly suffering from the replacement of some 80 per cent of its experienced staff by new staff (mainly locally recruited in Darlington) but this was already being overcome as the new staff were trained and gained experience. It had, too, from time to time been criticized for excessive checking, but there are contrary arguments and in any case MbO would hardly seem the appropriate remedy. Moreover, superannuation is at best a complicated subject and the teachers' scheme is more so than most, while the Department's central record of teachers and much of the straightforward pensions calculations are now done by computer, entailing an inter-related suite of computer programs and a close link between Pensions and Statistics (ADP) Branches. In these circumstances it was far from clear how MbO, which was in any case rather wrapped in mystery, could help. However, the branch undertook to give it a fair wind.

Preliminary steps

In mid-1970 the Management Services Unit raised the question of an O & M review of the branch. This had been due in 1969 but had been deferred because of dispersal; the question was whether to drop the O & M proposal in favour of an MbO experiment, or whether the two could proceed together in some way. In either event it seemed right that Management Services staff should be involved in MbO, so two members of the Unit were selected for training as advisers, and courses at the Civil Service College were arranged for them. Other members of the Management Services Unit attended seminars and visited other Departments, and by the end of the year the Assistant Secretary and one of the Principals in Pensions Branch had also attended a seminar or the College course.

It was soon clear that an O & M review and an MbO installation were quite different kinds of operation and that the two could not be run in parallel. It also seemed that the balance of advantage lay in engaging outside consultants to carry out an initial MbO installation,

and this formed the basis of the proposal that was approved by the Permanent Secretary of the Department early in 1971. (It should be recorded here that the Head of Pensions Branch had acquiesced in the proposal rather against his better judgment in view of the then impending major review of the teachers' superannuation scheme.) The proposal envisaged a limited experiment in two of the divisions of the branch by a team comprising a consultant (as leader) and the two trainee advisers from Management Services. The reason for wanting to limit the installation to two divisions was partly because the potential benefits of the exercise were unpredictable and partly because it was thought that the remaining divisions could constitute a control group in the experiment.

It was agreed that a Steering Committee should manage the project, and that it should comprise members of the branch, the Management Services Unit, CSD and the consultants, but not of the Staff Side. This was because the role of the Steering Committee was essentially one of management; moreover, the Staff Side's position could have been weakened when an evaluation of the project came subsequently to be made. But the Staff Sides, both in London and Darlington, were told of the MbO project and kept informed throughout of its progress.

Consultants

The next stage was the appointment of consultants, and here a great deal of help was given by CSD. On their recommendation tenders were invited from three firms of consultants, each of which carried out a pilot survey at Darlington prior to submitting its tender. In one respect all their reports agreed—a recommendation that the project should extend right across the branch and not be limited to two divisions—but the installation procedure they advocated and the philosophy behind it differed substantially. It is not proposed to describe these in detail; suffice it to say that, after each firm had given a presentation at the Department and all aspects of their reports had been considered, Inbucon/AIC were engaged to carry out the project. Despite the increased staff training required in the early stages of the Inbucon/AIC system, the Department was attracted by the installation process being very much the responsibility of the branch itself and by the apparent simplicity of the paperwork involved.

While the procedure for selecting the consultants was taking place a member of CSD visited Darlington and gave a background talk on MbO to a meeting of higher executive officers in the branch and the Darlington Staff Side. This was generally well received and helped to set the stage for the installation process itself.

Installation process

The consultants began their task of supervising the installation down to HEO level and training Management Services staff in September 1971. The branch had already begun a series of MbO Newsletters to

keep the staff, as well as the Staff Side, generally informed of progress; through these, details were also given of the next steps to be taken. After preliminary talks with staff, a detailed record (base reference data) was established of the organization of the branch as it then existed, how it set about its work, what output it achieved and the general attitude of the staff towards it. The intention was to repeat the exercise at a suitable point after the installation of MbO and to make comparisons which, if properly interpreted, would help to test the effect of MbO in the branch.

A series of four-day residential seminars and three-day team meetings began in November 1971 and continued during the first few months of 1972. Three separate seminars were arranged so that the 30 branch managers, Management Services staff, a Staff Side representative and the Departmental Training Officer could be trained in the theory and methodology of MbO in suitably sized groups that could be further divided into teams for syndicate work. The seminars had as their background Professor W. J. Reddin's book *Effective MbO* and included exercises designed primarily for situations found in industry and commerce. It is therefore perhaps not surprising that most of those who attended these intensive seminars found some initial difficulty in associating the concepts analysed and discussed with the situation to be found in their own work. They did not, in fact, feel that they were much farther forward by the end of the seminars, although the more 'down to earth' team meetings which followed a few weeks later gave some sense of achievement.

These 'team objectives meetings' were attended, first, by the Assistant Secretary, the Principals and the SEOs (who jointly became the 'top team') and then, separately, by each SEO and his team of HEOs. At each meeting the duties of the team and of its individual members were broken down into 'effectiveness areas' and a first attempt was made to set team objectives. The meetings also considered a number of other topics such as optimal team organization, team meeting improvements, team improvement objectives and the setting up of committees and project teams.

There followed a period of very slow progress; it took from April 1972 to June 1973 to complete the full initial installation. Early in this period the extensive superannuation changes arising from the major review of the superannuation scheme referred to above were beginning to take effect. This meant that managers were coming under increasing pressure and had difficulty in finding enough time to undertake the individual 'managerial objectives meetings' to agree personal objectives with their immediate superior and junior managers; the prolonged absence on sick leave of two of the SEOs exacerbated the situation. In addition, the Steering Committee decided that MbO should be extended to executive officers, who were responsible, with clerical support, for handling the bulk of the casework. Three special three-day introductory seminars conducted by Management Services were held

between June and September 1972 for EOs and, while these were in progress, an effort was made to clear up some of the outstanding SEO/HEO managerial objectives meetings. By May 1972, apart from these outstanding meetings, the consultants had completed their assignment to install MbO down to HEO level and, following a report on the installation, they withdrew from the scene.

A further need for training arose in October 1972. The Staff Side had indicated a desire to involve clerical officers in the installation and it seemed reasonable that they should become familiar with the concepts of MbO to enable them to play an active part in helping EOs to achieve team objectives. A series of two-day seminars was conducted by Management Services, with an increasing amount of help from the branch, in November and December 1972. All COs and a number of new EOs attended. These seminars set the scene for background training in MbO for new staff when the installation became on-going. One or two members of the branch had shown an aptitude as trainers; they devised and helped to conduct an internal course in the broader aspects of pensions work for recently arrived staff. This five-day course includes sessions on the branch style of management and attempts to integrate 'the work' and 'management'. (One of the difficulties in introducing MbO is the tendency for managers to regard it as a separately imposed addition to the normal work of the branch.)

As shown above, the individual one-to-one meetings to set personal objectives proceeded slowly. Quite apart from delays caused by pressure of work, all managers were finding it very difficult to formulate meaningful objectives. Management Services were giving all possible help when invited to attend these individual meetings but this did not eliminate the difficulty, nor has it been fully resolved at the time of writing this article. It was found to be comparatively easy to formulate objectives with a 'time' base (e.g. to aim to answer letters or notify pensions within a certain time) but some with a 'quality' base tended to be rather self-evident or were difficult to express in measurement terms. The main stumbling block, however, was the attempt to formulate realistic objectives with a 'quantity' base. The branch has virtually no control over its intake of work and has no reliable way of accurately forecasting the number of teachers who will retire, transfer, request repayment of contributions, die or seek general advice. In the circumstances, managers have not so far seen any value in trying to plan to increase output by a specified amount, for example.

In the early months of 1973 determined efforts were made to clear all outstanding one-to-one meetings. It had by then become clear that the extension of MbO and EOs and the involvement of clerical staff (which entailed EOs having meetings with their teams before setting team objectives which complemented their own personal objectives) was making the initial installation an unwieldy task, but there was little point at that stage in attempting to reduce the number of managers directly involved. By the end of June all meetings had been held, the

paperwork had been completed and a few minor adjustments had been made to achieve vertical and horizontal alignment as far as possible.

First review

The top team decided that the first full review of the installation should take place early in 1974 and that objectives should relate to the period up to 31st January 1974. In this breathing space it was possible to assess some of the defects and weaknesses in the installation. Apart from the difficulty in setting meaningful objectives which has already been mentioned, the system involved far too much paperwork. Objectives had been formulated for every aspect of each manager's work and each objective had been set out on a separate 'objective record sheet'. This sheet had space for notes or a programme of activities and a box for assessment of actual performance. The top team decided that, wherever possible, all objectives for an individual manager should in future be set out on a single sheet of paper, with a small space for notes. The top team were also concerned about the amount of time spent on one-to-one meetings. Mounting pressure of work necessitated a drastic reduction in the total time spent on these meetings and it was decided that the formal setting of objectives for individual EOs should be discontinued. Instead, HEOs should set team objectives in consultation with their EOs and COs and should have a personal objective to hold regular team meetings throughout the year so that the EOs and COs would continue to be directly involved in the management system.

When the first review took place on this revised basis it did, in fact, take longer than future reviews should do because it was necessary to examine to what extent EOs had met their personal objectives even though these would not be set again. The review began on 1st March 1974 and proceeded according to plan, without major difficulty, culminating in a successful top team review meeting away from the office on 19–20th May.

Attitude surveys

Once the review process had been successfully completed the way was clear to attempt an appraisal of the effect of MbO, to which reference has already been made earlier. The attitude of the staff prior to the installation had been tested by asking them to complete a questionnaire consisting of 100 statements to each of which an 'agree' or 'disagree' answer was required. The questionnaire was adapted by the consultants from a standard test devised by psychologists, but it was the first time that it had been used in an MbO context. The consultants hoped that by repeating the questionnaire at a later date a comparison of the results, together with the base reference data, would provide a measure of the success (or failure) of MbO.

In the event the second questionnaire, completed in October 1974, did not show a dramatic improvement. The initial questionnaire revealed that in the branch as a whole 46 per cent of the staff were

satisfied with the aspects of management that formed the basis of the 100 questions, while in October 1974 this percentage had increased only to 49 per cent. But in interpreting this result two important factors should be borne in mind:

(*a*) The ideal condition for installing MbO—a stable environment—was not provided in Pensions Branch, where the work situation was constantly changing, and made additional heavy demands on the staff, throughout the installation.

(*b*) When the second questionnaire was completed the staff had acquired a greater understanding of management matters than at the time of the initial questionnaire, and it seems very likely that they applied more critical standards on the later occasion. This would tend to invalidate a direct comparison of results, a conclusion confirmed by similar surveys carried out during an MbO installation in South Africa.*

Therefore, while the surveys revealed detailed information of interest they did not give a reliable overall measure of the effect of MbO.

Conclusions

Reference has already been made to the major review of the superannuation scheme, which has proved to be a far larger undertaking than had been anticipated; it is indeed still seriously distorting the work of the branch (the complement of which has been temporarily increased by some 20 per cent) and is likely to continue to do so at least until the end of 1975. It has been all-pervading and the result has been that most managers in the branch simply have not had time to think deeply about MbO, which they have tended to see as a tiresome irrelevance. The motions of setting, reviewing and resetting objectives have been gone through but, as explained above, it has proved very difficult to find realistic quantity objectives, particularly as the work itself has been in a constant state of flux. The branch hope to do better in future, when more time can be made available, but so far the return from this particular aspect of the exercise has been meagre.

At the time of going to press the branch have concluded that there is little or no profit to be gained by a repetition of the rather regimented review which had been undertaken in the early months of 1974 and which it had been intended to repeat annually. The difficulty in setting objectives, the excessive paperwork and the large amount of time involved led to this conclusion, despite the limited success recorded above; the branch were mindful also that most MbO literature advocates a very much shorter interval than 12 months between reviews. They have accordingly decided not to proceed with the 1975 review but instead to make the monthly top team meetings, and the various divisional meetings which follow them, the occasions for setting

* The OK Bazaars Retail Group. Reported in *International Management*, July 1974.

objectives which are narrower in scope and of more immediate relevance to the work in hand and which can be reviewed much more frequently, monthly if need be. In general these objectives are unlikely to be significantly different from what most good managers do anyway from a combination of instinct and experience, but they will be done in a more formal manner; the branch see MbO, in a sense, as no more than a checklist of all the management functions. They appreciate that what they now intend to do will not, in fact, cover all of those functions, so they propose also that the top team should review regularly, e.g. every six months, certain continuing activities such as training and should review *ad hoc* such things as branch organization in the light of the completion of a major exercise. This might result in specific tasks being given to one or more of the standing committees, to an *ad hoc* project team, or to one or more of the divisional management teams; in addition it will, of course, be open to the committees and the divisional teams to initiate tasks.

Apart from the setting and reviewing of objectives considerable success can be recorded in two respects. First, there has been a much improved appreciation of managerial responsibilities and managers at all levels are in general now paying attention to some functions which they had hitherto tended to neglect. In particular, there has been a greater willingness by middle management both to take responsibility and to delegate.

The second successful feature has been the improved communications, and hence morale, resulting from the institution of a formalized committee system. The prime mover here has been the top team and its practice of holding regular monthly meetings. Following these meetings the SEOs have called together the staff of their respective divisions and informed them of what has transpired. A subsequent, and recently introduced, measure has been the circulation to all members of the branch of a *Top Team Bulletin*, giving a résumé of the proceedings of the monthly top team meeting. In addition the top team, at its 'team objectives meeting', set up three standing committees, each chaired by a Principal, to consider respectively legislation on teachers' superannuation; general branch procedures and liaison with the Department's ADP unit; and personnel and training matters in the branch. Membership of the committees consists mainly of HEOs (one from each of the five divisions), with EOs acting as secretary to two of them on a rota basis. This gives 15 of the 22 HEOs in the branch a direct interest and opportunity to participate in a policy or general administrative area of the work, which has helped to improve communications, and gives EOs some committee experience. Members have the responsibility of acquainting their SEO and divisional colleagues of matters discussed and decisions reached. In addition, minutes of meetings are copied to all members of the top team and the chairman of each committee reports orally at the monthly top team meetings. Another product of the team objectives meetings has been the appointment of a number of

project teams to examine and report on selected problems impeding the efficiency of the branch. The setting of projects by the top team and the divisional teams, with time limits, imposes some discipline for the expeditious solution of problems.

It would be fair to say that despite certain reservations that still remain the installation can in general be regarded as successful, and the fact that the branch now refers to its 'style of management', rather than to MbO as such, is an indication of this. But despite this success in a non-administrative area the question remains—can this style of management be effective in a policy area of the Department where comparatively small numbers of staff are engaged on tasks that are frequently changing in emphasis or direction? It cannot be said that the experience of Pensions Branch helps to answer that question.

Cost of the installation

No article would be complete without reference to the costs involved. For the branch the initial seminars and subsequent team meetings meant a minimum involvement of seven days per head for all staff down to HEO, and rather less for executive officers and clerical staff. In addition a great deal of extra time was spent throughout the installation on one-to-one meetings, project groups, committees and the review, although some of this time could be regarded as part of the management process and not part of the installation procedure itself. In addition to the cost of the consultancy contract, there was the commitment of an SEO and two HEOs from Management Services (trained by the consultants) and some involvement of more senior staff. It is estimated that the total cost of installing MbO was less than 5 per cent of the annual costs of the branch and although the judgment can only be a subjective one on balance the installation looks worth while.

'. . . but look at the money I save'

It is clear from the comments made direct to us or reported in the Press that much interest has been aroused by the financial savings recorded in the article *War on Paper* in the May 1975 edition. It occurred to us, therefore, that there might be merit in reporting four other recent examples where Departments and the Management Services (General) Division of Civil Service Department have co-operated to bring about financial savings.

Perhaps the most interesting of the studies—at least for the assignment officer, who made a visit to Ethiopia—was that concerned with the supply of vehicles as part of the British Government contribution to aid disaster areas overseas. The practice had been to purchase new or reconditioned vehicles from the commercial market. From its detailed knowledge of government transport, the Transport Economy Unit was convinced that second-hand vehicles of the type needed were available from within government service and that they could readily be brought up to standard by the Property Services Agency (PSA) workshops. By this means, savings of about £100,000 were made on the vehicles which are to be sent overseas under current relief programmes.

On the same theme of vehicles and aid, a review was made of the arrangements for the delivery of invalid carriages and spares. Commercial contractors had been used but, to reduce costs, Department of Health and Social Security was considering setting up its own transport organization to take over the task. The Transport Economy Unit has, however, arranged for the existing PSA services, which operate throughout the country, to be used. After an initial trial, this proved so successful that it was decided to transfer responsibility entirely to PSA. The resultant saving was of the order of £150,000 over the first two years.

Other forms of transportation, namely, ships and military vehicles, are featured in two microcopying systems recently implemented by Ministry of Defence. At the Royal Naval Dockyards, Portsmouth and Devonport, engineering drawings relating to the construction of selected ships, their machinery and electrical systems are being converted to 35 mm microfilm aperture cards. Master sets are held at the dockyards and duplicate sets held on board for use at sea. When a ship returns for refit microfilm records are up-dated to include new and changed drawings of modifications and alterations. Duplicate microfilms and reduced size prints are progressively being used for dockyard planning and production purposes.

In the two dockyards initial expenditure of about £40,000 has enabled the Royal Navy to meet the operational requirements for drawing information and show annual savings of around £39,000 mainly on materials and accommodation, as well as gaining significant system advantages. Consideration is now being given to the installation of similar microfilm systems in the dockyards at Chatham and Rosyth.

The microfilm system introduced at the Military Vehicles and Engineering Establishment, Chertsey, is technically similar to that in the dockyards and is also for engineering drawings. The main difference is that, because the nature of the work is primarily research and development, all drawings produced throughout a project are microfilmed and retained as a history record—the original drawings are now discarded. The installation has cost £17,000 on equipment and a further £48,000 on initial filming. The predicted discounted saving was some £100,000 within five years. Implementation has been completed and the first-year savings of £25,000 confirm that total savings should be at least as high as forecast.

In total, the annual savings enumerated here are in the hundreds of thousands of pounds rather than millions. But it must be remembered that these savings are, unlike those in the 'War on Paper', in local areas of activity and not service-wide. In this they are no more than examples (albeit favourable ones) of similar cost-saving exercises being carried out continually by central and departmental Management Services organizations.

The Wider Issues Review

J. MITCHELL, Civil Service Department

Introduction

In 1973 and 1974, the Civil Service Department undertook an exercise which resulted in the publication of a report *Civil Servants and Change*.* The exercise, called 'The Wider Issues Review', took place against an unusual background, and was conducted in, perhaps, an unusual way. This article gives an account of the Review, partly as a matter of historical record, and partly because some features of the way the Review was conducted could be of interest to others involved in wide-ranging or broad-scale assignments. Which of these features can or should be imitated on another occasion is very much a matter for debate.

* Copies can be obtained from the Civil Service Department Library, Old Admiralty Building, Whitehall, London SW1A 2AZ.

Background

The Review was carried out against a background of discontent in the Civil Service. Pay was a critical issue—not only because the Government's general pay freeze of November 1972 came shortly before a pay increase was due to the Civil Service, but also because the agreed process for determining Civil Service pay had been subjected to increasing strain in recent years. There were other factors too as the Review itself confirmed: large-scale reorganizations, policy changes, the impact of manpower controls and, in some areas, disappointment over the implementation of the Fulton Report. All these led to an atmosphere of tension which found expression both in militant action over pay and manning and in a variety of lesser disagreements.

This low state of staff relations was unwelcome to the National Staff Side and the Official Side alike and each Side considered there would be value in an exercise in bridge-building. This would help them to identify practical steps to reduce both the discontent in the Civil Service and the inefficiency which such discontent generates. Hopefully, it would re-create the more normal atmosphere of goodwill in which current problems could be identified, discussed and settled between the two Sides. However, both Sides recognized that such an exercise would be crucially dependent upon the very goodwill and constructive collaboration whose absence was its *raison d'être.*

Definition of subject-matter

These considerations had their effect on the formal status of the exercise and the strategy and tactics of conducting it. It was vital that the area of debate and consideration should be as wide as possible and that every effort should be made to single out those areas in which real progress was possible. As these areas could not be identified in advance, it was necessary for the informal terms of reference at the outset to be wide and (an unusual aspect) rather vague. The exercise had to be convincing to all concerned: it had to assemble information and evidence about what life was really like in the Civil Service, how civil servants felt about their jobs and what could be done to improve things. To this end it had to enlist the support of all with an interest—the Civil Service Department, other departments, the National Staff Side, the individual staff associations and, not least, the staff themselves.

The exercise had also to maintain a sufficiently close relationship with the Official Side and the development of official policy not to go off at a tangent or come up with unrealistic proposals. On the other hand it had to be conducted with a high degree of independence: preferably by people who were not entirely and currently involved in significant aspects of the management of the Service. Accordingly the Review was carried out by a team of officials with working experience outside CSD and indeed outside the Service but who also had some experience of personnel management or management services work in the Service.

In the early stages, the exercise had to be given a low profile because it could so easily have gone sour. At the same time it had to show enough early promise to sustain the faith of all concerned. The spring of 1974, in the run-up period to the staff association conferences in May 1974, was clearly a critical time in which staff associations would have to take up their positions. And it was judged that if the exercise was to be completed before patience and momentum ran out, the final report should be ready by about the end of 1974. At the beginning of the Review it was recognized that after the final report the follow-through action would be of paramount importance: otherwise the exercise might seem in retrospect to be 'just another report on the shelf'. Not only would opportunities to make useful improvements be lost, but some lasting damage might be done if hopes were raised and then left unfulfilled.

Procedure

In response to a suggestion by the Lord Privy Seal early in 1973 that the problems going wider and deeper than the immediate issue of pay might with advantage be considered through the National Whitley Council, the Staff Side had indicated that they were ready to follow-up this idea and would like to confer with the Official Side on how progress might most usefully be made. It was agreed that the interface with the Staff Side should be Committee A of the National Staff Side and that there should be full consultation at all stages of the project. In the early discussions, pay questions loomed large and it was quickly agreed that pay matters, whether particular or of principle, were best dealt with through the normal channels. The Wider Issues Team, therefore, confined itself to restating points of common ground about the importance of pay and the possible consequences of overriding the agreed system for determination of pay. It was agreed that in other fields too the Wider Issues Team would not duplicate consultation or negotiations that were already in progress, though from the sidelines it would spotlight their relevance to the Wider Issues Review generally. Individual staff associations responded well to the invitation to make their own representations to the Review Team and came up with a very useful checklist of subjects to be looked into.

The Review Team reported to a Steering Committee drawn from the senior management of CSD and departmental Establishment Officers. It was closely in touch with the National Staff Side at all times. Informal discussion with members of the National Staff Side soon indicated that the main areas of unease extended over the middle and junior grades of the Service and that the problems which required attention were most acute among younger staff in the junior grades and especially in the provinces. The Review Team therefore concentrated on those areas and did all they could to get around and about. They paid nearly 40 visits to working units where they had discussions with local management, with local Staff Sides and with members of the staff. In

addition the team had discussions with Establishment Officers, individually and collectively, as well as with outside firms, with local authorities, with academics and with management consultants. It was encouraging that individual staff associations invited members of the team to attend their annual conferences.

Apart from visits to working units, the exercise was unusual in many ways. Not the least of these was the specific reference in the Report to the managerial role of Ministers. The final Report of the Team noted that frequently fluctuating political demands had an unsettling effect; and this together with the changing economic and social environment and the more questioning attitudes of younger staff had produced a widespread disenchantment within the Civil Service. The Wider Issues Team sought to identify the particular factors which affected attitudes to work and, in conjunction with departments and the National Staff Side, to consider what remedies could be applied.

Findings

It is not proposed to set out in this article the findings of the Wider Issues Team. This has been done in the Report itself *Civil Servants and Change*. But it is worth mentioning among the outcomes the impetus which was given to the National Whitley Council negotiations on facilities for representatives of trade unions and staff associations; the agreement flowing from these negotiations not only provided a framework within which departments have examined and have been extending these facilities, with a view to improving the working of the Whitley system at the departmental and local level, but also symbolized the intention of the Staff Side and the Official Side at the National level to take positive steps to restore traditional and constructive staff relations in the Civil Service.

The final report, published in February 1975, was favourably received, and its proposals had support at all levels. The Prime Minister welcomed the Report in the House of Commons and the Lord Privy Seal and the Head of the Home Civil Service invited their respective colleagues to emphasize the responsibilities of individual departments at this stage in the Review. Each department appointed a Wider Issues 'contact point' and copies of the report were widely distributed. Staff associations on the whole reacted favourably; indeed the view was expressed in some quarters that the report emphasized themes and opinions which staff associations had been pressing for some years.

Follow-up

The Wider Issues Team took the view that effective follow-up action, both in CSD and in departments, was essential. There was little point in identifying areas of discontent if there was to be no positive remedial action. Accordingly the Team, in consultation with departments, worked out an extensive, but not necessarily exhaustive, check-

list of what should be looked at and departments were asked to prepare action programmes in consultation with their Staff Sides. It was recognized that the prime responsibility for follow-up action lay with departments but that the Civil Service Department would give advice or assistance where it was thought that particular problems were not capable of departmental solution. The Team will continue to keep in touch with departments throughout the summer, paying particular attention to certain subjects, and it is expected that the Civil Service Department will take stock of progress with departments and with the National Staff Side in the autumn.

Paragraph 65 of the Report suggested that CSD, in collaboration with other interested departments, should try to draw out general lessons on a number of major themes related to the management of the Service. Among the examples given were the need for better methods of communication between staff and management and for improvement of the quality of management generally. CSD is now considering how this work can best be carried forward.

Conclusion

It has always been envisaged that in time wider issues work would merge with the continuing work of CSD and of departmental Establishment Divisions. There are, however, considerable advantages in retaining an identifiable Wider Issues Review Unit for some time to come; to keep the concept of wider issues alive and to assist and monitor progress in departments and elsewhere. What the Wider Issues Review has done so far is to focus attention on at least some of the problems affecting the Civil Service today, and to stimulate a systematic consideration in departments of what might be done about them. The Wider Issues exercise does not provide easy solutions to those problems, but it has helped to recreate a reasonably favourable climate of opinion in which new ideas and initiatives can be launched. The opportunity is there and departments, Staff Sides, staff associations and the staff alike should do all they can to make the most of it.

Reorganization of Local Education and Library Services in Northern Ireland

DR. D. J. ALLOTT and A. D. FINLAY, Civil Service Management Division, Northern Ireland

Introduction

When the Northern Ireland Government proposals for the reshaping of local government in Northern Ireland became known in 1969 it was immediately evident that a radical reappraisal of the administrative structures of the local education and library services would be necessary. In due course it was decided that the work of the existing eight local education and 16 library authorities would be undertaken by five area boards. In 1972 the O & M Branch of the Civil Service Management Division was invited to examine the administrative organizations of the existing authorities and to recommend organizational structures for the new area boards. This article outlines some of the problems that were encountered and the solutions that were devised in order to superimpose new organizations on working situations with a minimum of disruption to the service.

Background

Following the MacRory report which reviewed proposals for reshaping local government in Northern Ireland and made recommendations, many of which were subsequently incorporated in legislation, the Northern Ireland Government decided that five area boards should be established. These boards would be responsible to the Northern Ireland Department of Education not only for the local administration of the education service but also for the public library service throughout Northern Ireland which had previously been administered separately from education. These decisions were incorporated into the Education and Libraries (Northern Ireland) Order 1972, which set up the Education and Library Boards as follows:

1. Belfast (population 416,700).
2. South-eastern (population 281,400).
3. Southern (population 283,900).
4. Western (population 235,300).
5. North-eastern (population 317,900).

The O & M team commenced the assignment in March 1972 and the recommendations had to be ready for full implementation by 1st April 1973, the date set for reorganization. The assignment had, therefore, to be conducted against a very tight time schedule. The O & M team prepared a critical path network which proved to be invaluable, both to themselves and the other parties concerned with the assignment, in maintaining the schedule and the momentum of the exercise.

Previous organization

Prior to the reorganization of local government in Northern Ireland the eight local education authorities comprised six county authorities and two county borough authorities. Similarly, there were eight county library authorities. In addition, however, there were eight borough and urban library authorities which operated independently from the county system, but which had to be considered and incorporated into the new structure.

Two main problems were immediately evident to the O & M team: first, it was necessary for the responsibilities of the county education and library authorities to be assumed by the five area education and library boards whilst maintaining an uninterrupted service to the Province as a whole; second, it was important to devise a structure which would facilitate the integration of the education and library services into a single administrative structure. Over 100 interviews with senior staff in both education and library authorities together with numerous other interviews and written submissions revealed that they all had widely differing staffing and organizational structures. The differences in many cases reflected the size, needs and emphasis in each area and the dependence of the organizations on the local authority. In some cases the effective organizational structure bore little resemblance to the officially recognized structure as there were many informal relationships with people working to two or more superiors for different aspects of their work.

Whilst it could be argued that each area board merited individual consideration due, for example, to problems which were specific to certain areas and to the varying facilities which would be available to the new boards, the time scale of the assignment was against this individual approach. In addition, there were strong arguments in favour of devising a model organizational structure incorporating some variations to meet local needs but endeavouring to introduce a significant element of uniformity between boards with particular reference to the standardization of procedures and job descriptions. It was, therefore, decided to adopt this latter approach.

In the event local government reorganization did not take place until 1st October 1973, thus allowing an additional six months for the finalization of the O & M recommendations. As, however, this extension was only decided towards the end of 1972 the assignment was, for the greater part, conducted according to the original time scale.

General organizational proposals

From an organizational point of view the only limitations imposed by the Education and Libraries Order were that the Chief Officer of each Board should also be the Chief Education Officer and that each Board should have a Chief Librarian. After due consideration and in the light of these limitations, it was decided to recommend that there should be no Deputy Chief Officer. Instead it was considered that, having regard to the functions of the Deputy Directors in the former authorities, this role should be fulfilled most effectively by departmental heads who should deputize for the Chief Officer as appropriate.

The information collected by the O & M team from the education and library authorities led to the conclusion that a system of corporate management could best serve the area board structure. Four Departments were, therefore, proposed so that the Head of each would have an equivalent standing to the other three in the hierarchical structure. These Departments were Education, Administration, Architectural and Library. It was recommended that they should be headed by the Senior Education Officer, Chief Administration Officer, Chief Architect and Chief Librarian respectively. It was considered that this departmental structure could form the basis of a unified organization embracing all the activities of an economic and efficient service. It was believed that the separation of administrative services from the professional services would allow the staff concerned to devote their time to their specialist activities. These factors were of particular importance in the determination of the organizational structure that was finally proposed and which is shown in *figure 1*.

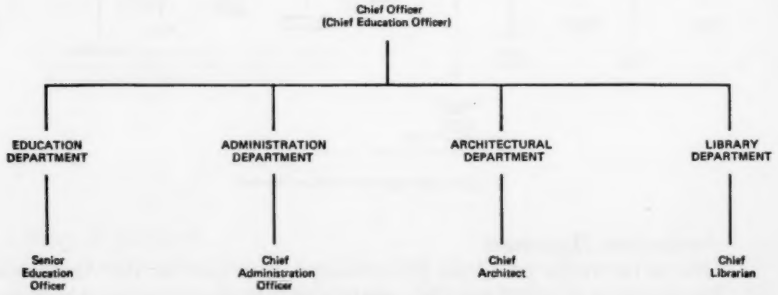


Figure 1 – Model organization chart: Area Board

Departmental organizational proposals

Education Department

The proposed work of the Education Department appeared to fall into two main sections:

1. Concerning children or adults in groups.
2. Concerning problems and needs of individual children.

The Department was, therefore, split into two main branches each headed by an Education Officer. One branch would assume responsibility for nursery, primary and secondary schools, further education establishments and youth services. The other branch would be responsible for special education, welfare, scholarships, school meals and educational development.

To strengthen middle management in the Education Department a new grade of professional assistant was introduced. It was proposed that there should be four professional assistants who should preferably be educationalists who were seeking to transfer to administration.

In addition to the functions controlled by the Education Officers, a Senior Educational Psychologist should take charge of educational psychology and would report direct to the Senior Education Officer. Similarly specialist advisers would report direct to the Senior Education Officer. The departmental organizational structure is illustrated in *figure 2*.

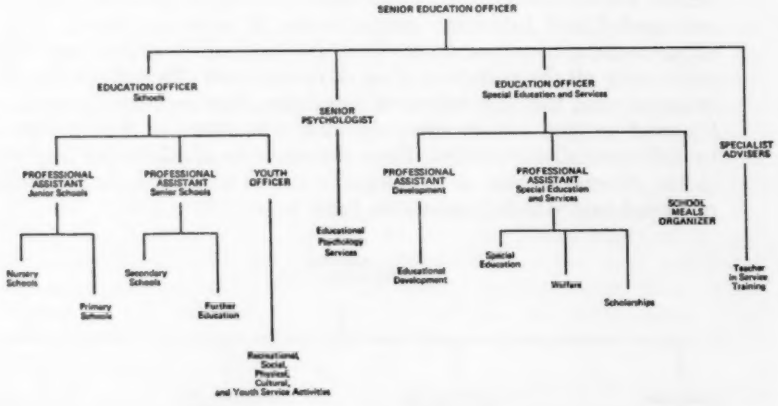


Figure 2 – Model organization chart: Education Department

Architectural Department

One of the main problems in devising a structure for the Architectural Department was the need to create a viable organization which would generate sufficient creative work to be attractive to professional architects whilst ensuring that the staff were fully employed even during slack periods. As new work projects come in peaks and troughs it was decided to provide a structure that would handle the workload slightly above the estimated trough level and that work over and above this would be contracted out to private architects.

Regardless of the design capacity for new buildings and extensions the architectural departmental organization had to have the capacity

to assist with the acquisition of sites, inviting tenders for technical services to the Board, the supervision of the construction of buildings, briefing outside architects and consultants and cost control co-ordination.

The organization was also designed to be able to undertake building and grounds maintenance. In connection with the latter the appointment of a grounds maintenance officer was proposed who would be comparable to the school playing fields officers in some local authorities in England and who would be capable of supervising the construction and maintenance of grass playing fields, all-weather pitches, other grass areas and ornamental flowerbeds at schools and libraries.

The recommended organization of the Architectural Department is illustrated in *figure 3*.

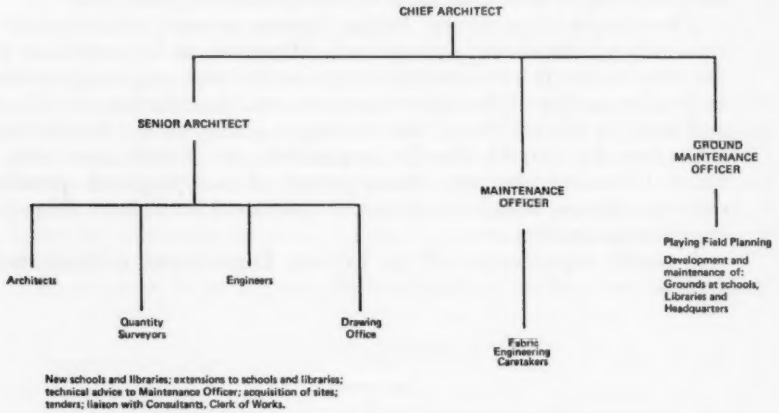

CHIEF ARCHITECT
SENIOR ARCHITECT
MAINTENANCE OFFICER
GROUND MAINTENANCE OFFICER
Architects
Quantity Surveyors
Engineers
Drawing Office
Fabric Engineering Caretakers
Playing Field Planning
Development and maintenance of: Grounds at schools, Libraries and Headquarters
New schools and libraries; extensions to schools and libraries; technical advice to Maintenance Officer; acquisition of sites; tenders; liaison with Consultants, Clerk of Works.

Figure 3 – Model organization chart: Architectural Department

Library Department

Library administration gained several advantages from its incorporation into the area board structure. The Library Department would, for example, have the benefit of the administrative and architectural facilities of the whole organization. It was, therefore, stressed that if the area board organization was to run smoothly the library services must be completely integrated administratively into the organization as a whole and to this end the Chief Librarian should be responsible to the Chief Officer of each board.

It was recommended that there should be no Deputy Chief Librarian but that there should be three senior librarians (four in Belfast) who

would each report to the Chief Librarian; this again being an extension of the principle of corporate management. The Senior Librarian (adult services) should be responsible for all the branch libraries of the area board, for special services and for mobile libraries other than school mobile libraries. The Senior Librarian (central services) should be responsible for acquisitions, allocations, transfers, bibliography, cataloguing, the reference library service and technical services (bookbinding and repairs). The Senior Librarian (youth services) should be responsible for children's libraries, library services to all schools and further education establishments and the gramophone record and audio visual aids library. The evidence suggested that this last aspect of the library service would increase significantly in importance in the relatively near future. Because it would appear that schools and youth organizations could be the predominant users of this service, it was decided to associate this section with the school and children's libraries.

The complexities of the Belfast library service, which were not encountered elsewhere, necessitated differences in organization from the other areas. It was recommended that the basic organization would be similar to that of the other boards except that the central reference and lending library should be the responsibility of the fourth Senior Librarian. He would also be responsible, in consultation with the Chief Librarian, for the development of the proposed provincial reference library which would not be functional for at least three years after reorganization.

A model organization of the Library Department is illustrated in *figure 4*.

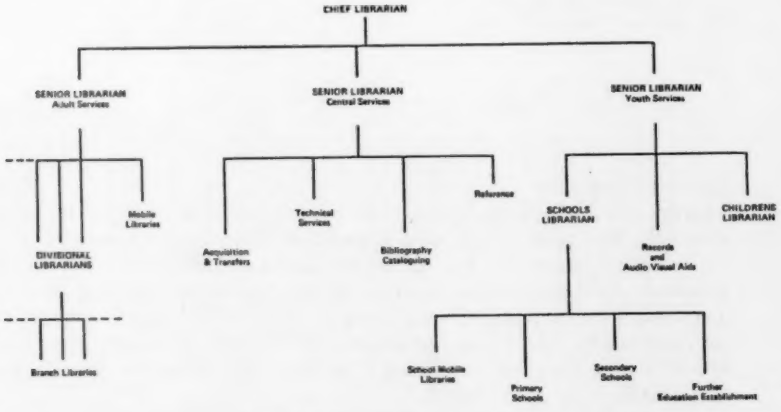


Figure 4 – Model organization chart: Library Department

Administration Department

As already indicated the corporate management concept presupposed that the Education, Library and Architectural Departments would no longer perform a number of administrative functions which had hitherto been performed by professional staff. Instead it was considered to be more appropriate for these duties to be performed by the Administration Department which would thereby provide a service to the area board as a whole. Whilst it was appreciated that some of the proposed common services to be provided by the Administration Department would require some technical knowledge, the evidence that was available to the survey team indicated that there was no overriding reason why all these services should not be undertaken by appropriate staff of the Administration Department assisted by any necessary liaison with professional staff.

It was considered that the Administration Department should embrace four main branches, namely: Accounts, Purchasing, Transport and Personnel (including central services). In addition a small Legal Branch was recommended.

The importance of devising and introducing uniform procedures for comparable branches in the Administration Department of each board was recognized. In the event due to significant differences between the former authorities, not only in operating procedures, but in scale and requirement for some services—transport requirements provide a good example—the unification of procedures proved to be impracticable, at least in the short term.

An attempt, however, was made to achieve similar procedures where

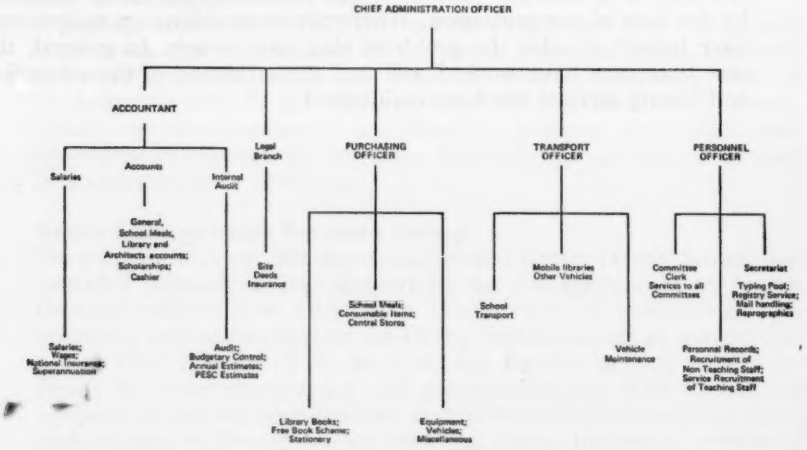


Figure 5 – Model organization chart: Administration Department

possible and to this end a model organization was designed for the Department as illustrated in *figure 5*. It was hoped that in the long term increasing uniformity would become possible.

Conclusion

The primary objective of this assignment was to provide a workable outline organization which could be extended and modified as the occasion required. To enable staff to become involved in the necessary preparatory work for the changeover to the area board structure recruitment for the senior posts had to be begun at the earliest possible date. It was therefore considered to be essential to produce the outline organizational structure at an early stage of the assignment.

When the outline organization had been accepted by the Department of Education, the O & M team went on to prepare a series of papers concerned with the functions, procedures, staff numbers and grades for each of the branches and sections of the area boards. In addition, papers were issued concerning specific problems that it was anticipated would occur at the time of the changeover, for example, unification of filing systems and the handover of individual pay and personnel records.

As each area board organization was to be small in terms of administrative staff numbers, the O & M team worked to devise not only a close-knit organization but also one that would offer the staff the best career structure that the circumstances would permit.

It is beliveed that the objectives of the assignment were met and that reorganization was carried through relatively smoothly. Since that time problems have been encountered in certain boards due to the inability to recruit and train the number of staff recommended for all branches by the date of reorganization. Where necessary follow-up assignments have helped to solve the problems that have arisen. In general, the new structures have worked well and the efficiency of the education and library services has been maintained.

Networks—An Alternative Approach

A. P. BOYLE, Ministry of Defence (Army)

For the past two years or so the Army Management Services Group (Work Study) has used a German network analysis system known as RPS (Regeltechnische Planung und Steuerung) for various national and international network projects. Their experience indicates that, in certain circumstances, RPS offers significant advantages over the conventional 'activity-on-arrow' system that is used by most management services practitioners. In the article that follows, Peter Boyle, who is a member of the Group, describes the system. Government Departments seeking further information on the use of RPS are invited to contact the Group at Stoughton Barracks, Guildford, Surrey GU2 6PS (Telephone 0483–60681, extension 151 or 113). —*Editor.*

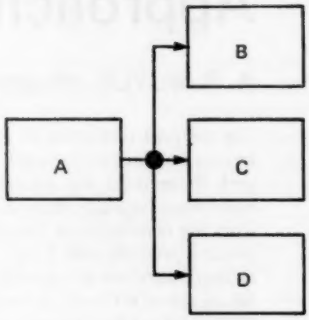
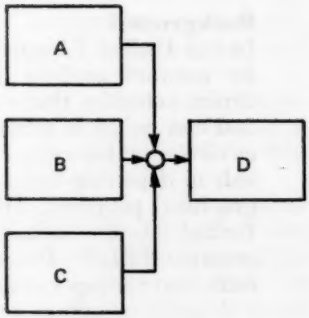
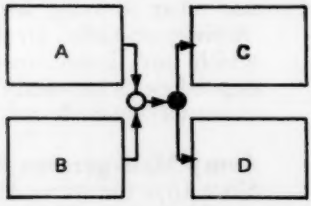
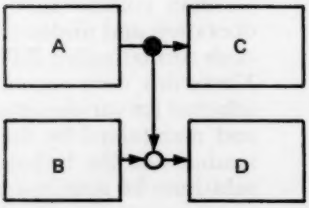
Background

In the United Kingdom 'Activity-on-arrow' format is normally used for network analysis diagrams. In this format arrows are used to depict activities that consume time or other resources and the start and end points of activities are symbolized by nodes, which are drawn as circles or lozenges. Dotted lines, called 'Dummies', may be used as aids in depicting logical relationships between activities and for other graphical purposes. The format stems from work carried out in the United States in connection with the management of the Polaris programme. PERT—Program Evaluation and Review Technique—is the term that springs to mind here.

Activity-on-arrow, or PERT, is not the only format that can be used for network analysis diagrams. Indeed, some of the Continental countries use other formats, which are classified under the generic title of 'Activity-on-node'. In these formats activities are symbolized by boxes, which are interconnected by lines to indicate constraints and dependencies between the activities. Dummies do not have to be used in activity-on-node networks.

Army Management Services Group

Since 1972 the Army Management Services Group (Work Study) has provided network analysis support for the management of an Anglo-German collaborative project. In the interests of international co-operation and understanding the Group decided to use an activity-on-node format called RPS for the networks. Results on both sides of the North Sea were encouraging and, subsequently, the RPS format was adopted for various other national and international networks prepared and maintained by the Group. Also the Group has run a number of seminars on the technique. Customer reaction to the use of RPS, as a substitute for activity-on-arrow format, has been universally favourable.

	Constraints to be illustrated	Depiction in RPS
Example 1	B, C and D by A	
Example 2	D by A, B and C	
Example 3	C and D by A and B	
Example 4	C by A. D by A and B	

RPS

The initials RPS stand for 'Regeltechnische Planung und Steuerung' (Technical Management Planning and Control). The system was evolved by Dr-Ing Walter Schliep* who was a founder of the European Association of Management Consultants. In addition to the basic activity-on-node symbols of an activity box and a logic line two additional symbols are used in RPS format:

- ● — a blob, called a *Distributor*; to distribute the output of an activity to two or more dependent activities.
- ○ — a ring, called a *Collector*; to collect together two or more inputs to an activity.

RPS networks are constructed by using combinations of distributors and collectors according to the requirements of logic. Some examples are shown opposite.

The main conventions in RPS format are:

(1) Logic lines should be drawn horizontally or vertically.
(2) Only one logic line may be terminated in the left-hand side of an activity box; a collector must be used if there is more than one input to an activity. Similarly, a distributor must be used if an activity has more than one output.
(3) One symbol must not be used to depict two functions. For example, if both collection and distribution are involved a collector and a distributor must be used (as in Example 3).
(4) At a collector the arrowheads act as gates to channel the flow of logic in the correct direction.

Forward and backward passes may be carried out through an RPS network to establish the critical path and to identify float. Various existing computer programs can handle RPS networks.

Advantages of RPS

The following table summarizes the main advantages of RPS compared to the conventional activity-on-arrow format for network analysis diagrams:

Factor	*Advantages*
Appearance	RPS diagrams have a much neater, more methodical and more businesslike appearance
Size	RPS diagrams tend to be squarer and smaller than arrow diagrams which, all too often, tend to be very large and very long
Ease of assimilation	RPS does not involve the use of Dummies which, in arrow diagrams, confuse many people

Factor	*Advantages*
Clarity of presentation	In RPS all activity data are housed in a box; there is little possibility of confusing the data for separate activities. This is in marked contrast to arrow format in which data are displayed above and below the arrows, in the nodes and in the surrounding areas. This factor is of particular significance in complicated diagrams
Ease of reference	In RPS the activity boxes can be laid out in columns and rows and numbered by a grid reference system. This facilitates cross referencing and, again, is of particular significance in complicated diagrams
Use of aids	Computers and other less sophisticated aids can be used for the production of RPS diagrams; in particular to print data in activity boxes
Emphasis	Many situations are 'activity orientated' in that the major problem that faces management and the network analyst is to identify the activities that have to be performed. RPS is an activity orientated format
Similarity to other formats	A box layout is a conventional method of displaying information. Thus, with RPS it is not necessary for the users of a network to learn a fundamentally different technique. This is advantageous when the users are not trained or experienced in interpreting network analysis diagrams

When to use RPS

Clearly, the selection of a network format for a particular project should be governed by the circumstances prevailing at the time. Change for the sake of change would be pointless and there would be little merit in inflicting a new system on users who were, already, well versed in handling activity-on-arrow diagrams. Equally, the arrow format is well suited to event orientated problems where the main significance of the network is to identify events or changes in state.

There are, however, many situations in which the network analyst works for customers who have little or no previous experience in the art. Also, many problems are activity orientated. Finally, there are occasions on which British networks are used by our Continental allies. It is under such circumstances that RPS offers very considerable advantages over the conventional PERT or activity-on-arrow format.

* *Planning and Control in Management—The German RPS System* by W. Schliep and R. Schliep. English edition 1972, published by Peter Peregrinus Limited, 2 Savoy Hill, London WC2R 0BP.

Behavioural Science in Management

Some Thoughts Prompted by Saul Gellerman's Book*

DR. E. ANSTEY, Civil Service Department

Edgar Anstey is Director of the Behavioural Science Research Division in CSD. The article that follows represents the author's own views and not necessarily those of CSD. —*Editor.*

For anyone who wants to know what lies behind the rather unattractive phrase ' behavioural science' Saul Gellerman's recently published book provides a useful introduction. Gellerman defines behavioural science as ' any rigorous, experimental or evidence-based studies of behaviour in work settings'. The initial chapters give an admirably succinct and lucid account of what behavioural scientists and their managerial allies are trying to achieve, which is 'nothing less than a deliberate modification of organizational cultures so as to make them more congenial to the human spirit as we have come to understand it'. Failing such modification, workers (all of us gainfully employed, whether in factory or in office) are likely to become so increasingly frustrated and alienated as, in effect, to 'price themselves and their companies out of the market'. It is these frustrations which are the main cause of galloping inflation in the United Kingdom today, and the best hope of cure lies not in budgetary measures but in changing the hearts of people. The realities of organization, rather than the façade, need to be reconstructed so that the ordinary worker feels that he is involved closely in running his own affairs. Unless he feels this, he is unlikely to care whether society continues to evolve or collapses in ruin.

Until comparatively recently it was widely assumed, first, that applications of the physical sciences and technologies would secure rising production and general economic progress without any serious side-effects. It was assumed also that, if increasing prosperity could be spread widely throughout the community, so that poverty could be virtually abolished and most people enjoy a rising standard of living, this would make them steadily more content with their lot and better, happier citizens; crime, industrial disputes, and all other social evils would gradually wither away. The term 'management' was applied primarily to management of material resources, and so far as management of people was concerned a common view was that it was sufficient

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* *Behavioral Science in Management* by Saul Gellerman. A Pelican Book published by Penguin Books Ltd., price 50p.

to managers to be benevolent towards their staff, to be skilled in recognizing and developing their talents, and to be concerned that they should secure a fair day's wage for a fair day's work.

By the 1960s all these beliefs had begun to be challenged. Numerous studies, e.g. of car assembly-line work, have shown that monotonous, repetitive work can become so frustrating as to cause workers to withhold co-operation or even, in extreme cases, deliberately to sabotage production. These facts have now been recognized in books such as Schumacher's *Small is Beautiful*, which questions the assumption that the only important criterion for a project is whether it is 'economic' and attaches equal importance to other considerations such as the effect on people and on the environment. The social cost of, for example, spoiling a landscape, polluting a river, increasing noise levels, or making it more difficult for people to communicate peacefully with each other, should be set against reductions of monetary cost aimed at more 'economic' production. Even the traditional balance sheet should be broadened to include human assets, acquisitions and losses, as well as material.

Some applications of psychology go back 50 years or more. There have been advances both in fitting the man to the job—job specification, selection, training, etc.—and in fitting the job to the man—ergonomics, equipment design, etc. Gellerman's book provides illustrations of the activities of behavioural scientists in a number of these 'traditional' fields. In the realm of personnel selection they have been active in exploring the early identification of management potential. Chapter 2 of the book, amplified in Case Study 1, contains a description of the Personnel Development Series, or PDS, a written test programme developed in the Exxon Company in the United States. In addition to tests of reasoning and of managerial judgments, this includes an attitude questionnaire and two personal history forms described as 'the most potent, interesting and controversial parts of the PDS programme'. They explore the extent to which people have provided evidence, even in their adolescence, of readiness to assume leadership roles; to take risks; and to be broad-ranging in their interests and activities. The real pay-off in PDS, it is claimed, is in the number of high-potential men who are successfully identified *before* their promise became apparent to management in the normal course of performance appraisal.

Developments of this kind in 'traditional fields' have contributed to the technical efficiency of, for example, personnel selection, but have not always led to increased satisfaction within the organization as a whole. There are advantages, certainly, in early identification of people with the greatest potential, but the danger lies in giving them such special treatment that the remainder of the staff, the 'non-flyers', feel that they are receiving less than their fair share of attention and opportunity of development to the maximum of their potential, even though this may not be as high as that of the flyers. One of the reasons

for failure of some of the early staff appraisal schemes introduced in the United States was that they concentrated almost exclusively on 'management development' to the neglect of developing the rest of their staff. I hope that we will not fall into this trap in the British Civil Service, and that proper attention will be given and be seen to be given, to developing the careers of *all* staff by means of Job Appraisal Reviews, Career Interviews and the like.

In any case, improvements in selection, whether at initial recruitment or from among serving staff, may not have any bearing on the traditional belief that a manager is a superior being whose function it is to lead, direct and control staff, in contrast with staff, whose function is to follow, accept and implement directives from above without questioning the wisdom of the directives or having much say in how they should put them into practical effect. As Gellerman puts it 'Far too many got into managerial positions for reasons which, if they ever had any relevance, are certainly irrelevant now. Many were promoted on the basis of what was essentially project knowledge to do a quality-control job. Many were promoted on the basis of leadership qualities to do what was essentially a behaviour-control job, that is, keeping subordinates in line. Many were promoted simply because they were the next in line themselves. Thus, managers with nothing more to offer to management than this will find that the rules of the game have been changed on them, and that they have in fact become redundant.' Only by different emphases in training could this kind of managerial style be changed so as to secure more effective worker participation.

Chapter 3 of the book discusses how attitude surveys, if interpreted intelligently, can be used to diagnose failings in company organization. But in Case Study 2 David Sirota points out that 'little behavioural change on the basis of survey findings can be expected unless managers feel that such changes will be rewarded by higher management, and its absence will invoke penalties'. He goes on to argue that the usefulness of a survey technique is greatly enhanced when it is carried out on a periodic and regular basis, so that the effectiveness of the action taken can be assessed systematically.

Chapter 4 discusses the Herzberg theories of job satisfaction and their applications to job enrichment, as described in Case Studies 3 and 4. It gives one striking example in a United States aerospace company where one group of machinists which had an unfortunate record of slowdowns, grievances and equipment failures were given virtually full control over their own scheduling, production methods, and inspection procedures. In effect they became their own supervisors and technical advisers. After some initial decline, production rose to much higher levels than had previously been thought possible. But this example is left in mid-air. It is not clear how long this improvement was maintained, or what other consequences followed. It is conceded, for example, that increasing job satisfaction at one level inevitably raises fresh problems higher up. Cynics about job enrichment have

remarked that its real purpose is to persuade a Clerical Assistant to do a Clerical Officer's job for a CA's pay. A more sympathetic reader might remark that the seemingly liberal Herzberg does nothing more than provide management with benevolent, as opposed to bludgeoning, tactics for getting workers to do what they, the managers, want. As Gellerman puts it, 'The real test to which job enrichment has yet to be put is the one which management itself has not yet faced: the compatibility of managerial effort in its power prerogatives with the higher productivity and creativity of which men in general appear to be capable.'

Chapter 5 turns from specific techniques to the more general concept of organization development, which is defined as an 'attempt to make organizations facilitors rather than inhibitors of accomplishment'. Behavioural scientists and managers concerned with finding practical ways to make changes happen have increasingly been drawn together. Their concern is to encourage people to give of their best and respond adaptably to changes in circumstances by helping them to develop latent talents to the full. There are no specific cure-all techniques which can be applied in any circumstances. Sensitivity training is mentioned as one technique directed to these ends, but the limitations are exposed, notably that 'the transplanted behaviour would not survive for long in an unprepared and, therefore, unreceptive environment'. Gellerman describes a variety of approaches used in the United States today, but concludes that 'in its present condition the importance of organization development lies more in its recognition of a need and its experimental approach to behaviour modification than in its concrete achievements'.

As Keith Robertson has pointed out when commenting on the lessons from his job satisfaction studies* there are three inter-connected requirements for organization development, namely, experimentation, participation, and learning. Experimentation and participation go hand-in-hand. Willingness to experiment is the first essential. In studying how people behave, as in investigating physical phenomena, half-an-hour of experiment is worth several days of theoretical disputation but, without full participation by all concerned, experimentation will lead nowhere. The validity of the data can be questioned by those who, for quite extraneous reasons, don't wish to act on it. By participation is here meant involving all the parties, which includes management at various levels and staff side at various levels, as well as the staff themselves. They should all play their part in planning the experiment, discussing the results and, above all, in implementing any agreed conclusions or launching fresh experiments. The third requirement, learning, in a very general sense, is in contrast with the limited objective of trying to solve a particular problem. Very often the immediate problem which precipitated an experimental study will not have been

*See his article, 'Job Satisfaction in the Civil Service—a Perspective', published in the August 1973 edition of this journal.

solved, but much will have been learnt which enables improvements to be made in directions which could not have been predicted before the study was carried out. As Keith Robertson puts it: 'The outcomes of strategies for change through edict, persuasion or concession—though in fact unpredictable—at least seem clear until they are found not to work. The point about learning is that you start by not knowing the answer.'

Job satisfaction studies are currently being undertaken in various departments in the Civil Service, and in the Department of Health and Social Security the 'New Model Office' project represents a highly participative approach to organization development. Other experimental studies are being fostered in industry by the recently established Work Research Unit of the Department of Employment.

Returning to Gellerman's book, it has to be acknowledged that the contents are uneven in quality. The later chapters are not related sufficiently clearly to the main theme expanded so admirably in the Introduction and Chapter 1. The scientific reader will be irritated and frustrated by Gellerman's failure to represent sufficient evidence to allow him to arrive at independent judgments of the various claims made. The case studies provide working examples of behavioural science concepts and findings, but these can hardly be regarded as evidence. Another major defect is that there is hardly any reference to staff associations and no recognition of their vital role in securing organization change. Finally, it would be helpful to provide an index.

For all its defects, however, this book is commended to any manager who is seriously concerned about the morale and efficiency either of his own organization or of the country as a whole, who realizes that human problems are the crux of the matter, and who feels that radical solutions are called for. Gellerman admits frankly that behavioural sciences are only beginning to make a useful, practical contribution. The amount of evidence so far accumulated is small. Nevertheless, 'The manager seeking guidance on how to influence behaviour in ways that are consistent with the organization's purpose (which is, after all, his job) does not face a choice between the physical and behavioural sciences. There is nothing in physics or chemistry or any of the "hard" or "exact" sciences that applies to this problem. His real choice is between the behavioural sciences, such as they are, and no science at all—between the behavioural sciences and the accumulated folklore, mythology and superstition that too often passes for traditional managerial wisdom.'

Machinery of Government in Great Britain

Main changes during 1974

The year 1974 saw two General Elections—in February and in October; the former gave rise to a change of Administration and to some months of minority government, while the latter converted that minority into a small overall majority. Important changes in the machinery of government occurred throughout the year; the most noteworthy concerned the departmental structure—the establishment of four separate Departments in place of the Department of Trade and Industry, the re-establishment of the Ministry of Overseas Development, and the dissolution of the Ministry of Posts and Telecommunications—the alterations in the pattern of paid Ministerial offices, which flowed from the Ministers of the Crown Act 1974, and constitutional changes in Northern Ireland.

Structure of Government

The pattern of Ministerial Offices

The Ministers of the Crown Act 1974, which received Royal Assent on 27th June 1974, amended the Ministerial and other Salaries Act 1972 and placed new limits on the number of paid Ministerial offices. It allows greater flexibility in the ministerial structure of government. The number of Ministerial salaries which may be paid to Ministers in the Cabinet is increased from 19 to 21; the Lord Chancellor, who traditionally has a seat in the Cabinet, is not included in these figures, his salary being provided for elsewhere in the Act. The Chief Whip (the Parliamentary Secretary to the Treasury) and any Minister of State joined the group of Ministers who are to be paid salaries at a higher or lower level according to whether or not they are members of the Cabinet.

The limit on the number of paid 'second tier' Ministers in Part II of the Act taken together with the number of paid Ministers in the Cabinet was raised from 46 to 50 and this limit includes a Minister in charge of a public department of the Government in the United Kingdom who is not a member of the Cabinet and who is not eligible for a salary under any other provision of the Act. A new limit of 83 was introduced on the number of paid Ministerial offices in the Cabinet plus the 'second tier' Ministers taken together with the number of Parliamentary Secretaries (other than the Parliamentary Secretary to the Treasury). This replaced the previous separate limitation on the number of the Parliamentary Secretaries.

The 1974 Act also amended the House of Commons Disqualification Act 1957 by increasing from 91 to 95 the number of Ministers who may sit and vote in the Commons at any one time.

The size of the Government

The alterations to the statutory limit on the number of paid Ministerial offices permitted some increase in the size of the Government during the year. At the beginning of January the Government consisted of 96 holders of Ministerial office of whom 75 were members of the House of Commons, 20 were members of the House of Lords and one, the Solicitor-General for Scotland, sat in neither House. By 31st December the number had increased to 108 of whom 90 were members of the House of Commons, 17 of the House of Lords, and the Solicitor-General for Scotland, who again was not a Member of Parliament. The addition of 12 new holders of Ministerial office by the end of the year was accounted for by an increase in the size of the Cabinet from 20 to 23, in the number of Ministers outside the Cabinet from 27 to 28 and in the number of Parliamentary Secretaries (excluding the Parliamentary Secretary to the Treasury) from 26 to 34.

Northern Ireland Constitution

The Northern Ireland Assembly was prorogued on 29th May 1974 following a Province-wide strike organized by the Ulster Workers Council. Direct rule from Westminster exercised by the Secretary of State for Northern Ireland was reintroduced. The Northern Ireland Act 1974, which received Royal Assent on 17th July, provided for the eventual dissolution of the Northern Ireland Assembly by Order in Council and for its continued prorogation pending dissolution. The Act made better temporary arrangements for the government of Northern Ireland and also provided for the election and holding of a Constitutional Convention to consider what provision for the Government of Northern Ireland would be likely to command the most widespread acceptance throughout the community there.

Changes in Ministerial responsibility

Department of Energy

The Department of Energy was established under the Prerogative on 8th January 1974 under the direction of a Secretary of State to discharge the functions and responsibilities of government in relation to energy resources. These functions, formerly the responsibility of the Secretary of State for Trade and Industry, were transferred to the Secretary of State for Energy by administrative action since no Transfer of Functions Order was required (but see also under Department of Trade and Industry below), as the functions transferred were vested in the Secretary of State at large.

The Department of Energy is responsible within the Government for the development of policies in relation to all forms of energy. It

discharges the Government's functions in respect of the publicly owned coal, gas and electricity industries. It is responsible for the Atomic Energy Authority, and is the sponsoring department for the nuclear construction industry. The Department is responsible for the development of oil and gas resources on the British sector of the Continental Shelf and for encouraging, through the Offshore Supplies Office, British Industry to supply goods and services to the offshore operators. It is the sponsoring Department for the oil industry and is responsible for international aspects of energy problems, including relations and co-operation with oil producing countries. The Department is the co-ordinating body for energy conservation policy and for encouraging the development of new sources of energy.

Department of Trade and Industry
In March the functions exercised at that time by the Department of Trade and Industry (established in 1970) were split between three new Departments: Trade, Industry, and Prices and Consumer Protection. The Secretaries of State (New Departments) Order 1974 (SI 1974 No. 692) transferred those functions vested in the office of Secretary of State for Trade and Industry which were listed in the Order, to the Secretaries of State for Industry, Trade, and Prices and Consumer Protection, and to the Secretary of State for Energy to whom no statutory transfer of functions had been made prior to the dissolution of Parliament.

Department of Industry
The Department of Industry is responsible for general industrial policy both national and regional. In particular, it is responsible for the sponsorship of individual industries, the technical services to industry and industrial development and finance. In addition, the aerospace industries come within its responsibilities as does industrial research and development, including supervision of the industrial research establishments of the former Department of Trade and Industry. It was also made departmentally responsible for the Post Office Corporation following the dissolution of the Ministry of Posts and Telecommunications (see below). In addition, the Department of Industry provides common services of an administrative nature for the Departments of Trade and Prices and Consumer Protection.

Department of Trade
The Department of Trade deals with general overseas trade policy, commercial relations and tariffs, and with those aspects of our relations with the European Community. It is responsible for the work of the British Overseas Trade Board in export services and promotions, overseas finance and planning. In addition, the Department handles matters arising from companies legislation, supervision of the insurance industry, for the insolvency service and the work of the Patents Office. It is also responsible for civil aviation, marine and shipping policy,

tourism, the hotel and travel industries, the newspaper industry and the film industry.

Department of Prices and Consumer Protection
The Department of Prices and Consumer Protection is responsible for general policy on prices and price control; for consumer subsidies on food; for general competition policy and consumer protection, including policy on consumer credit; and for standards, weights and measures. It is in consequence the Department responsible for the Price Commission, the Monopolies and Mergers Commission, the Office of Fair Trading and the Metrication Board.

Ministry of Posts and Telecommunications
The Ministry of Posts and Telecommunications (which had been established in October 1969 under the provisions of the Post Office Act 1969 which also made the Post Office a public corporation) was dissolved on 17th April 1974 by the Ministry of Posts and Telecommunications (Dissolution) Order 1974 (SI 1974 No. 691) and the responsibilities of the Minister for the Post Office Corporation were transferred to the Secretary of State for Industry. At the same time responsibility for broadcasting policy and radio regulation were allocated to the Home Secretary.

Ministry of Overseas Development
It was announced in March 1974 that a separate department was to be re-established to deal with overseas aid and development. Responsibility in this field had rested with the Secretary of State for Foreign and Commonwealth Affairs since the dissolution of the former Ministry of Overseas Development in November 1970 and the transfer of functions to the Secretary of State by the Transfer of Functions (Overseas Aid) Order 1970 (SI 1970 No. 1682).

The re-establishment of the Ministry of Overseas Development was facilitated by the Ministers of the Crown Act 1974 which created a new general category of Minister outside the Cabinet in charge of departments (see also Structure of Government above). Accordingly it became possible to set up the Ministry of Overseas Development as a separate and independent Department with its own Minister outside the Cabinet. The bulk of the new Minister's responsibilities were transferred from the Secretary of State under the Ministers of the Crown Act 1974 and the remainder were transferred subsequently by the Minister of Overseas Development Order 1974 (SI 1974 No. 1264).

Ministers with special or co-ordinating responsibilities
In addition to those Ministers whose general responsibilities are indicated by the titles of their offices, certain Ministers were allocated special areas of responsibility or a co-ordinating role, where responsibility for certain aspects of Government activity was divided between two or more different Government Departments. The following arrangements of this kind were announced during the year:

Sport and recreation
A Minister of State in the Department of the Environment is responsible for co-ordinating Government policy in relation to physical recreation and sport. In July 1974 following a report from the House of Lords Select Committee on Sport and Leisure, the Minister's co-ordinating responsibility was extended to cover the whole field of active recreation including the promotion of research. The Minister of State for Sport was redesignated Minister of State for Sport and Recreation.

Disabled people
It was announced on 11th March 1974 that a Parliamentary Under Secretary of State in the Department of Health and Social Security had been appointed to be responsible for co-ordinating the activities of that Department in relation to the disabled and would also be available for consultation by other Government Departments on the improvement of facilities for disabled people.

Devolution of Government
It was announced after the General Election in October, that the Lord President, in addition to his duties as Leader of the House of Commons, was being given responsibility for further work on devolution policy including the preparation of legislation (see *Democracy and Devolution: Proposals for Scotland and Wales* Cmnd. 5732 published in September 1974), and for other work relating to the development of political institutions. He is assisted by a Minister of State in the Privy Council Office and by an official unit within the Cabinet Office. A Parliamentary Under Secretary of State in each of the Scottish and Welsh Offices work closely with the Lord President and the Minister of State, Privy Council Office, on the Scottish and Welsh aspects respectively of this work.

Government information services
It was announced on 18th October 1974 that the Lord President is responsible for co-ordinating Government information services. He has delegated day-to-day responsibility to the Parliamentary Secretary at the Privy Council Office who also advises the Lord President on the presentation of Government policy.

Population policy
The Prime Minister announced on 19th March 1974 that the Lord Privy Seal is the Minister responsible for co-ordinating work on population matters, and from October 1974 is assisted in this work by the Parliamentary Secretary at the Privy Council Office.

Organizations established or dissolved during the year
Consumer Credit
The Consumer Credit Act 1974 received Royal Assent on 31st July

1974 and established, for the protection of consumers, a new system of licensing and other forms of control of traders concerned with the provision of credit or supply of goods on hire or hire purchase. The Act also made new provisions for regulating moneylenders and pawnbrokers in place of previous enactments in this field. The administration of these new statutory functions is an extension of the responsibilities of the Director-General of Fair Trading whose office was established under the Fair Trading Act 1973.

Manpower Services Commission and Agencies

The Manpower Services Commission was established on 1st January 1974 under the provisions of the Employment and Training Act 1973. The Commission assumed formal control of the employment and training services formerly part of the Department of Employment with the setting up of the Employment Service Agency on 1st October 1974 and the Training Services Agency on 1st April 1974. The two Agencies are the executive arms of the Commission and are separate corporations. The Commission itself consists of a Chairman; three members appointed after consultation with the TUC; three after consultation with the CBI; one each appointed after consultation with the local authority associations in England and Wales and in Scotland respectively; and one after consultation with professional education interests.

Health and Safety

The Health and Safety Commission was established on 1st October 1974 by the Secretary of State for Employment under the provisions of the Health and Safety at Work Act 1974. The Commission has the duty under the Act of securing the health, safety and welfare of all people at work and for protecting the public against risk to health and safety from the activities of those at work. About 5 million people who have not been covered by health and safety legislation before will now be protected for the first time. The Commission appointed a Health and Safety Executive from 1st January 1975 which is responsible for implementing the Commission's advisory function and for enforcing the relevant statutory provisions (i.e. existing legislation and the provisions of the Act and the regulations made under it). The formation of the Executive brings together the Alkali and Clean Air Inspectorate, Explosives Inspectorate, Factory Inspectorate, the Mines and Quarries Inspectorate, the Nuclear Installations Inspectorate, Employment Medical Advisory Service, Safety in Mines Research Establishment, the British Approvals Service of Electrical Equipment in Flammable Atmospheres and certain other scientific and administrative staff. The Commission will advise the appropriate Minister on the making of health and safety regulations and the approval of codes of practice, provide information and advisory services to government and others and also encourage the carrying out of research and the provision of training. Both the Commission and the Executive are Crown bodies. The Secretary of State for Employment appoints the Chairman of the

Commission; before appointing members he consults the CBI about three members, the TUC about three others, and is empowered to consult organizations representing local authorities, appropriate professional bodies and other interested organizations about three other members.

Commissions for Local Administration in England and Wales

An extension of the machinery for the redress of grievances in the field of local government administration was made by the establishment of the Commission for Local Administration in England and the Commission for Local Administration in Wales under the provision of the Local Government Act 1974. Similar provisions are to be made under separate legislation for Scotland.

Under the Act each of the Commissions may consist of a number of Local Commissioners appointed by the Queen on the recommendation of the relevant Secretary of State after consultations with bodies representative of local government in England and Wales. The Parliamentary Commission for Administration has been made a member of both Commissions.

The Act provides for the division of England and Wales into areas, and for one or more Local Commissioners to be responsible for investigating complaints in each area, or for a Local Commissioner to be responsible for more than one area. For the present one Commissioner only has been appointed for Wales. Provision is made for the Commissioners to investigate complaints of injustice in consequence of maladministration in connection with action taken in the exercise of administrative functions by any local authority; any joint board of local authorities; any police authority other than the Secretary of State; and any water authority.

Matters not subject to investigation include those for which there is the right of appeal to the Minister or a tribunal or for which there is a remedy by any of proceedings in a court of law. A Local Commissioner will not conduct an investigation into any action which in his opinion affects all or most of the inhabitants of the area of the local authority concerned. In addition, there are certain other matters which are not subject to investigation by the Commissioners such as the investigation or prevention of crime, the conduct of proceedings before any court of law, the operation of public passenger transport, transactions relating to the acquisition or disposal of land, certain actions taken in the exercise of functions under the Education Acts and matters connected with the conditions of service of local authority staff.

Pay Board

The Pay Board, which was established by the Counter-Inflation Act 1973, was abolished under the provisions of the Prices Act 1974, by the Counter-Inflation (Abolition of the Pay Board) Order 1974 (SI 1974 No. 1218).

Price Commission
The Prices Act 1974 conferred additional powers on the Price Commission for preventing or restricting increases in prices and charges and to make provision for requiring prices to be indicated on goods offered for sale by retailers.

National Industrial Relations Court
The Court was set up under the provisions of the Industrial Relations Act 1971 and was abolished by the Trade Union and Labour Relations Act 1974 which repealed the 1971 Act and made new provisions with respect to the law relating to trade unions, employers associations, workers and employers and the law relating to unfair dismissal.

Commission on Industrial Relations
The CIR, established by Royal Warrant on 1st March 1969, was put on a statutory basis by the Industrial Relations Act 1971, and abolished when that Act was repealed. The Commission carried out inquiries into industrial relations questions both of a general character and in particular industries and companies. The Advisory, Conciliation and Arbitration Service will continue certain of the functions of the CIR in this field.

Conciliation and Arbitration
The Conciliation and Arbitration Service was established administratively by the Secretary of State for Employment on 2nd September 1974. It is proposed to introduce legislation to put the organization on a statutory footing in due course. The Chairman and Members are appointed by the Secretary of State after consultation with the TUC and with the CBI. The functions of the Service are to offer conciliation or mediation in trade disputes either on its own initiative, at the request of the parties to the dispute or at the request of the Secretary of State. In addition, the Service has a general duty to promote good industrial relations and employment policies by providing an advisory service to employers and trade unions.

(In January 1975 the CAS Council decided, with the approval of the Secretary of State for Employment, to change its name to the Advisory, Conciliation and Arbitration Service.)

Book News

A number of management publications have been received recently from publishers. Space does not permit a full review, but a note of their title, contents and cost is included below.

Techniques and Public Administration by Maurice Spiers. Published by Fontana, price £1.25 (paperback), £3.50 (hardback). Explores the place of techniques in public administration; considers how particular techniques and procedures assist governments, and particularly public servants, in their attempts to cope with the problems they face; discusses the strengths and weaknesses of the techniques they use, and the possible areas of innovation and change.

The Management of Welfare by R. G. S. Brown. Published by Fontana, price £1.50 (paperback), £3.95 (hardback). A study of the problems involved in managing and controlling the National Health Service, the Personal Social Services, and Social Security.

International Dictionary of Management by Hano Johannsen and G. Terry Page. Published by Kogan Page Limited, price £10. A compendium of 4,500 management terms and references in common use, in both the private and public sectors, in the UK, Europe and the United States.

Economics and Operational Research by M. H. Beilby. Published by Pitman Publishing, price £4.50. Operational research has developed as a collection of techniques for solving specific management problems, while economics is concerned with the more general question of the organization of human and material resources. This book explores the possible connections by concentrating on the interpretations of management decisions at different levels in the economy.

Introduction to Business Computer Programming (*Second edition*) by T. W. McRae. Published by Gee & Co. (Publishers) Limited, price £2.10. Intended for managers who want to learn the basics of computer programming. Explains the basic principles of flow charting and coding and provides a brief glimpse of higher level computer languages.

Retraining and Tradition—The Skilled Worker in an Era of Change by Kenneth Hall and Isobel Miller with a foreword by J. S. Cassels, Chief Executive, Training Services Agency. Published by George Allen & Unwin Limited, price £5.80. Describes two research projects which studied the post-training experience of adult trainees who had undergone a period of training in government training centres.

State Librarian. To keep staff in government and national libraries in touch with each other and to promote greater administrative efficiency, the Circle of State Librarians has launched a new journal, *State Librarian.* The journal will be published three times a year. Copies are free to members of the Circle; non-members may receive copies for an annual subscription of £2.25 (£3.25 overseas) including postage. Further details may be obtained from The Editor, *State Librarian,* Civil Service Department, Whitehall, London SW1A 2AZ.

Letters to the Editor

The views expressed in letters to the Editor are the writer's own, and not necessarily those of his Department.

Who is in charge of personnel management?

Dear Sir,
I have news for Mr. Holland, in reply to question (4) at the end of his article in the May 1975 edition. In 1942, following a report of the Select Committee on Expenditure, establishment divisions in the largest departments appointed a senior officer with responsibility for innovation in the personnel field outside the traditional areas.

He was called the departmental O & M officer. At the same time the Treasury set up an O & M division to provide a service for small departments. From this tiny acorn has grown the mighty management services function. The primary aim is still innovation and the emphasis is still on the problems of people at work, but the range of attention has widened to include other resources, structures and systems at all levels of organization.

It is a pity that Mr. Holland chooses to ignore our existence. No doubt it is fashionable to claim that we are mechanistic and hard-nosed. But the fact is that we strive continually to absorb the lessons of behavioural science as well as 'scientific management' in order to develop a balanced and integrated approach. By all means let Mr. Holland help us in our learning process but it seems rather unrealistic—some might say disingenuous—to suggest the setting up of a parallel consultancy function.

Yours faithfully,

C. J. Hancock
Civil Service Department

Management in Government

Dear Sir,
All those responsible for or interested in achieving greater effectiveness and efficiency in the conduct of business in Government Departments and Agencies, and in promoting the competence, job satisfaction, development and *esprit de corps* of civil servants, will be grateful for the clear and challenging analysis by Mr. Wilding in his article in the May 1975 issue.

Mr. Wilding has drawn attention to a subject that is relevant to the problems and needs of Government and one that is, or should be, of vital concern to Government Departments, and to all those who work in them or are associated with their activities —including the Staff Associations and Whitley Councils.

It is unlikely that many would dispute Mr. Wilding's analysis or his provisional definition of Management in the context of Government, or would disagree with his three broad conclusions which expose Management in Government as a definable and discrete subject deserving of study and (I infer) of study, development and application primarily by Civil Service managers themselves.

One is left hoping—indeed expecting—that Mr. Wilding, from his unique central

vantage point, will soon go further and suggest how such study might be further encouraged, and perhaps organized. Perhaps he could also suggest how the result of these studies might be promulgated for consideration, testing and acceptance; and, in short, how a relevant theory of Management in Government can best be developed and translated into general practice. This seems to need central direction from a suitable focal point, with a suitable forum.

Should this not be part of the approved main aims of Civil Service Department Management Services and, indeed, of all departmental Management Services units—with the involvement and committed support of Heads of departments and their most senior officers? If so, it would seem to entail some change of emphasis in most Management Services units, by laying more stress on 'management' than on 'services'. This does *not* mean that the present advisory and other services based upon traditional, but often fragmented, O & M, OR, ADP and other techniques, systems and managerial aids should be curtailed, because these are both relevant and useful in appropriate circumstances. It does imply, however, that sufficient resources should be devoted to advising at all levels on the theory, practice and style of management *per se*—that is the general management of both people and work. And this probably means not only pressing on with the more enlightened personnel management policies which are still developing for the management of staff (including the managers), but also providing a more integrated overall approach to harmonizing good staff management with the adoption and management of work techniques and systems.

Yours faithfully,

T. Farmer
Department of the Environment

Aligned Management

Dear Sir,

The article by Mr. Wilding in the May 1975 edition raised so many issues of crucial importance that I hope it will not be allowed to sink into the, with respect, comparative obscurity of management literature.

The point I would like to take up is his final proposition that 'those responsible for . . . management can only assess the worthwhileness of their activities by an examination of what they are there to do and how far they are being successful in doing it which needs to be much more systematic and rigorous precisely because the profit criterion is missing'. This theme was echoed by Mr. Holland's article in the same edition, which argued that line managers need to accept 'a more deep-seated philosophy of management' by greater sensitivity to such issues as the need for job satisfaction.

The prescription seems clear enough. Anyone given new managerial responsibilities could, as his first priority, seek satisfactory answers to the following questions:

(1) What is this Section/Branch/Division/Department doing?
(2) Why is it doing these things: at whose behest and to what effect?
(3) Are any or all of these functions no longer relevant, or are any of them, although still relevant, better done elsewhere (e.g. by devolution from headquarters)?
(4) What else should we be doing which we are not doing, or doing to an inadequate degree or standard at present?

(5) What are the staffing implications—in numbers and grades—of the answers to (1)–(4) above?

These are simple questions to ask and they need not be too difficult to answer. So why does this process not always take place? Pressure of work is one answer, e.g. where a manager is appointed to implement a crash-programme as the result of some Parliamentary priority, on a 'no questions asked' basis. But this constraint does not apply in most cases.

I think that, to get the results that Messrs. Wilding and Holland want, a line manager needs to be:

(1) Technically competent—he must know the subject and have the kind of respect from his staff which comes not from status but from the recognition that, if the need arose, he could do any of the jobs he is asking them to do.

(2) Intellectually alert and challenging—age must not have withered him, nor must custom have staled his infinite variety. He must regard his post as a fulcrum for achievement, not as a prop for psychological support.

(3) A democrat by instinct—participative management or whichever synonym is currently favoured must be seen as an honest catalogue of the goods on offer, not as a gimmicky window-dressing.

These three characteristics react positively on each other. A manager who is technically competent and intellectually alert will be interested in what others have to say about his specialism. One who is intellectually alert and democratically inclined should become competent, since he will soon become aware of what is going on. And a person who is technically competent and democratically inclined will become aware of more ways of tackling his specialism than he could think up for himself.

If this prescription is accepted, how can it be achieved? First, recruitment and selection policies could stress the importance above all else of these three characteristics, and annual report forms be redesigned accordingly. Secondly, personnel policies might aim to give the new entrant to the Civil Service the opportunity in his early years to choose the field of work in which he feels the most competent, and thereafter to encourage a measure of specialization. (For example, in my own Department, as Mr. Wilding pointed out, the aims of management differ very greatly between the Social Security and the Health sides, and it is not always the case that line managers can operate with equal success on either side of the Department.) Thirdly, some of these characteristics might be encouraged or developed by suitable training. For example, a good short course is available on 'creative thinking' (brainstorming) which can help to offset the rigid patterns of thought developed by an analytical and problem-solving approach.

Again, training courses could stress that democratic approach to work is both right in principle and best in practice. I think this is particularly important for the Civil Service's potential high-flyers. If I had my way, genetics rather than economics would form the basis of the Administration Trainee course, in order to show that qualities such as intelligence, drive or persistence are no more than aces drawn from the genetic pack—highly convenient to have and to use, but not in themselves signs of special moral virtue. And there must be many ways short of Meccano sets and jig-saws to drive home the message that to make full use of whatever is available leads to a more satisfactory end-product.

I suggest that the need in the Civil Service is now for a line manager who will not rest, or want to rest, until he can answer all the following questions affirmatively:

(1) Does each person who works for me understand his function and how this fits into the aims of my [section] and the Government's objectives as a whole? (This latter may seem ambitious, but I suggest departmentalism—my Minister right or wrong—is one of the curses of the Civil Service.)
(2) If not, do the working relationships here encourage him to seek from his immediate supervisor(s) whatever additional explanation and background information is necessary to give him this understanding?
(3) Does he then accept that his own work is the best possible way of using his official time to help achieve the desired objectives?
(4) If not, does he feel able to suggest ways of improving his own usefulness, confident that such suggestions will be examined on their merits?
(5) Equally, does he feel quite free to put forward any more general ideas for improving the [section's] work, again confident that these will be considered on their merits?

If such a situation became at all widespread, I think that most of the problems in Civil Service staff relationships, as ventilated in the Wider Issues Review and—at least by implication—in the perceptive articles by Messrs. Wilding and Holland, would disappear.

Yours faithfully,

T. A. Howell
Department of Health and Social Security

O & M—The Professional Approach

Dear Sir,
In the May 1975 edition you published three contributions to the debate instigated by Mr. Ryan in February 1975. I, although not practising 'in Government', am a recipient of the publication and would appreciate the opportunity to take issue in the debate on the basis that your correspondents appear to have missed the point of Mr. Ryan's article.

When he speaks of the term 'ethical approach' of O & M officers Mr. Ryan does not, I suggest, refer to the attitudes with which such officers approach separate and individual projects, rather he appears to be expounding the perennial personnel management problem of how line managers, who may well regard themselves as 'diverted' from their chosen course, can be motivated to perform at their optimum capability in any specialist field, or to use Mr. Ryan's word 'assignment', in which the dictates of the organization's management development programme necessitates their employment.

Mr. Ryan's approach appears to be that of senior line manager who, while 'diverted' to a training management assignment, feels it necessary to challenge the ethics of managers diverted to another field. One must assume that he has put his own house in order and that those of his lecturers undergoing a tour of duty with the Civil Service College are not themselves guilty of the 'will limit his training and his knowledge to what is likely to be required and no more' approach. Has Mr. Ryan a particular axe to grind with the O & M discipline in Government or is he really speaking in general management terms? It is neither unusual nor specific to either the Civil Service or the Services for a management development programme to fail to achieve its objectives. The causes have often been suggested to be either inadequate communication or too frequent changes of promotion policy.

Mr. Ryan appears to be searching for a remedy to a particular problem without first identifying its cause. Is it not likely that the attitudes of the O & M officers whose ethics are questioned are conditioned by their experiences? Perhaps they may have seen colleagues who, having met the standards sought in the last paragraph of Mr. Ryan's letter, have become so indispensable in their superiors' eyes that they have remained in their specialized, but career limiting, assignments for the remainder of their careers. There will be no motivation to attain the connotation of 'professional' where specialists have evidence of this type of higher management approach to their careers.

If the cause of the problem has any personnel management connotation, and irrespective of the nature of the assignment in question, line managers who are given specialist assignments are most likely to be motivated to take a challenging stance only when they are fully satisfied that the attainment of a 'professional' standard in any assignment will be regarded by promotion boards as a minimum prerequisite for progression in general management. While it remains possible for mediocre general performers to be readily promoted over the 'professional' specialist there appears to be little mileage in the altruistic approach being demanded of the incumbent of a particular specialist post.

The remedy appears to lie with management. If it requires a change of attitude it should communicate that requirement. It should also communicate line promotion and employment policy, letting it be seen that the policy is operating in practice without detriment to any particular type of managerial field. The attainment of professionalism will thus become as attractive to the individual as it is to the organization which employs him.

Yours faithfully,

I. G. Scott, Squadron Leader
Royal Air Force, Germany

Corrigenda to Supplement to May 1975 edition, Page 9, last entry, column 5. *Delete* 'CTL 17' and *substitute* '3 x CDC System 17'.

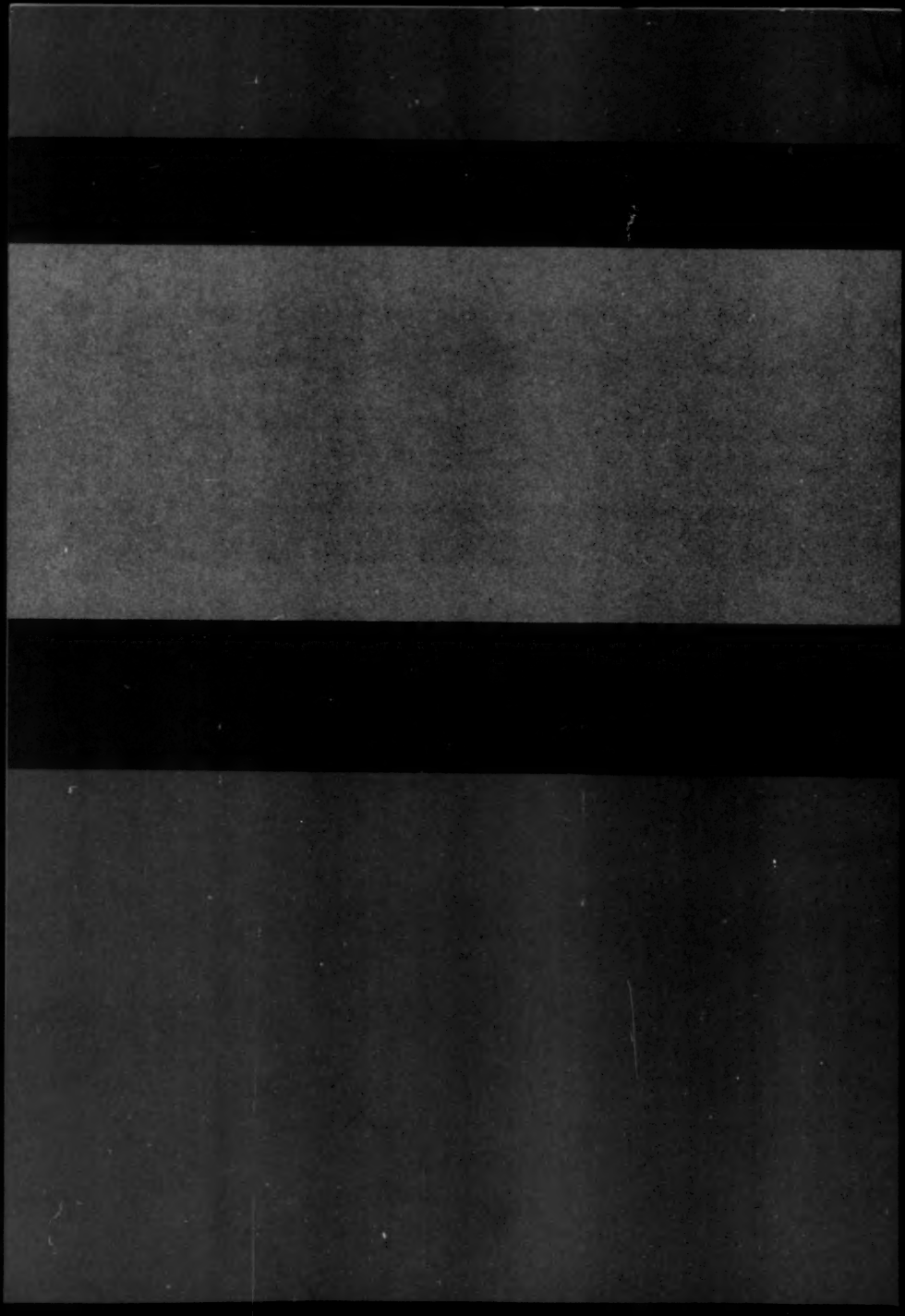
On page 16, under Manufacturer key, *add* 'CDC . . . Control Data Ltd.'

Computer Installations for Government Departments

A list of all Government computers as at 1st January 1975 was published as a supplement to the May 1975 edition of MANAGEMENT SERVICES IN GOVERNMENT. Details of computers ordered during the period January to March 1975 are shown in the following table.

DATE OF ORDER	DEPARTMENT	LOCATION	MAIN USES	MANUFACTURER* AND TYPE OF COMPUTER
1B Computers on order for administrative and general purposes				
January 1975	Customs and Excise	Southend	VAT calculations	ICL 4/72
January 1975	Defence (Air)	Innsworth	Airmen's pay and records	Univac 1107
January 1975	Home Office	Corby	Supply and transport stock control statistics	IBM 7000
February 1975	Employment	Runcorn	Professional and Executive Register	ICL 1904S
February 1975	Health and Social Security	Newcastle	Pensions, family allowances, statistics	ICL 2970
February 1975	Health and Social Security	Newcastle	Payroll, pensions, statistics and ADP Branch	ICL Geronimo system
February 1975	Home Office	Hendon	Police records	Burroughs B6700
March 1975	Defence (Air)	Innsworth	Airmen's pay and records	ICL 2970
March 1975	Foreign and Commonwealth	London	Overseas diplomatic estates	Olivetti DE523
2B Computers on order for scientific and technical purposes				
January 1975	Defence (Army)	Woolwich	Quality assurance	ICL 1904S
January 1975	Defence (Air)	Harrogate	Logistic control of aero engines	ICL 2903
January 1975	Energy	Leeds	Safety-in-mines research	DEC PDP 11
February 1975	Defence (Procurement Executive)	London	Aircraft performance calculations	GEC 480
February 1975	Industry	Cambridge	Development of computer-aided design	Prime 300
March 1975	Environment	Reading	Hydrometric data processing	ICL 1904S

*Manufacturer key (*Column 5*)

Burroughs	Burroughs Machines Ltd.
DEC	Digital Equipment Co. (UK) Ltd.
GEC	GEC-AEI (Automation) Ltd.
IBM	International Business Machines (UK) Ltd.
ICL	International Computers Ltd.
Olivetti	British Olivetti Ltd.
Prime	Prime Computers Ltd.
Univac	Sperry Rand Ltd. (Univac Division)

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